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Second report on the protection of the environment in relation to armed conflicts

Submitted by Marie G. Jacobsson, Special Rapporteur

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I. Introduction*

1. At its sixty-fifth session, in 2013, the International Law Commission decided to include the topic "Protection of the environment in relation to armed conflicts" in its programme of work and appointed Marie G. Jacobsson as Special Rapporteur for the topic (A/68/10, para. 131).

2. The topic was first included in the long-term programme of work in 2011. Consideration of the topic proceeded to informal consultations that began during the sixty-fourth session of the Commission, in 2012, and continued at its sixty-fifth session, in 2013, when the Commission held more substantive informal consultations. Those initial consultations offered members of the Commission an opportunity to reflect and comment on the road ahead. The elements of the work discussed included the scope and general methodology, including the division of work into temporal phases, and the timetable for future work. The Special Rapporteur presented a preliminary report (A/CN.4/674 and Corr.1) at the Commission's sixty-sixth session, in 2014, on the basis of which the Commission held a general debate.[1]

3. The present report contains a brief summary of the debates held in 2014 by the Commission and by the Sixth Committee of the General Assembly during its sixty-ninth session. It also contains a summary of the responses received from States with regard to the specific issues identified by the Commission as being of particular interest to it.

II. Purpose of the present report

4. The focus of the present report is to identify existing rules of armed conflict that are directly relevant to the protection of the environment in relation to armed

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[1] A/69/10, paras 192-213. For a more comprehensive presentation of the debate, see summary records A/CN.4/SR.3227-3231.

conflicts. The report therefore contains an examination of such rules. It also contains draft principles.

5. The law of armed conflict must be interpreted in the light of the realities of modern armed conflict. The nature of armed conflict varies considerably. Apart from classic, inter-State wars, we face non-international armed conflict, internationalized armed conflict and wars by proxy. Yet other descriptions of conflict have entered the scene, such as "cyberwar" and "asymmetric warfare". The first test in any given case is to identify whether an armed conflict exists at all.[2]

6. The varied nature of armed conflicts is particularly challenging because any application of the law of armed conflict must begin with a classification of the conflict in question.[3] Unless such a classification is made, it is more or less impossible to comprehend which rules to apply. Not all rules applicable in relation to international armed conflict are considered applicable during non-international armed conflict. At the same time, it is clear that fundamental principles, such as the principle of distinction and the principle of humanity (the dictates of public conscience), reflect customary law and are applicable in all types of armed conflict. In addition, many provisions of international treaties reflect rules of a customary law nature and may therefore be applicable in all types of armed conflict.[4]

Method and sources

7. The present report contains information on State practice based on the information received directly from States. Such information has been obtained through either the responses of States to questions posed by the Commission or their statements on the topic in the debate in the Sixth Committee of the General Assembly. In addition, information has been obtained from the official websites of States and relevant organizations. Such information is of a primary source character. As with any other topic in the Commission, such information is not comprehensive. A challenge lies in which method to use in identifying applicable customary law rules. The International Committee of the Red Cross (ICRC) has made an impressive effort in this respect. Its momentous study on customary international humanitarian law (ICRC customary law study) was published in 2005 following some 10 years of compilation of material and analytical work.[5] The ICRC customary law study has no precedent. With its three volumes, 5,000 pages and 161 rules and commentaries and supporting material, it is, to quote one author, "a remarkable feat".[6] Yet it has been criticized for shortcomings in methodology and

[2] For a discussion on a possible definition of "armed conflict", see the preliminary report of the Special Rapporteur 2014 (A/CN.4/674 and Corr.1), paras. 69-78.

[3] For a summary of the legal need for the classification of conflict, see Jelena Pejic: Status of armed conflict in Elizabeth Wilmshurst and Susan Breau (eds.), *Perspectives on the ICRC Study on Customary International Humanitarian Law* (Cambridge, Cambridge University Press, 2007), pp.77-100. For a comprehensive discussion see the various contributions in Elizabeth Wilmshurst (ed.), *International Law and the Classification of Conflicts* (Oxford, Oxford University Press, 2012).

[4] There are two steps in such an analysis: first, the provision needs to be identified as reflecting customary law; and second, the content of the rule will make it clear whether or not its customary law status covers both types of conflict.

[5] Jean-Marie Henckaerts and Louise Doswald-Beck (eds.), *Customary International Humanitarian Law*, vols. I and II (Cambridge, Cambridge University Press, 2005).

[6] Daniel Bethlehem: The methodological framework of the study, in Elizabeth Wilmshurst and Susan Breau (eds.), *Perspectives on the ICRC Study on Customary International Humanitarian Law* (Cambridge, Cambridge University Press, 2007), p. 3.

reliability.[7] In addition, it should be underlined that the study is, in and of itself, a snapshot of the applicable law at a given time. To mitigate the latter temporal shortcoming, additional material is continuously placed on the ICRC customary law web page.[8] In the view of the Special Rapporteur, the work by ICRC is far too valuable to neglect or even downplay. It is the most comprehensive compilation of legislative and regulatory measures, along with expressions of *opinio juris*, available in this field. To the extent that reference is made to the ICRC customary law study it is done on the basis of the aforementioned premises.

8. For obvious reasons, it is far more difficult to acquire information on State practice in non-international armed conflict. Information on the practice by non-State actors is even more difficult to access. Such information is of certain interest even if it does not constitute State practice in the legal sense. The Commission's discussions in 2014 on the topic "Identification of customary international law" revealed a clear tendency within the Commission not to include practice by non-State actors as part of the concept of customary international law. As a result, the Special Rapporteur for that topic has suggested a clarifying rule stipulating that conduct by other non-State actors (with the possible exception of international organizations) not be considered "practice" for the purposes of the topic.[9]

9. All parties to armed conflict are subject to the rules of international humanitarian law. Leaving aside the question of whether non-State actors are eligible to create, or to contribute to the formation of, customary international law, for practical reasons the Special Rapporteur has been unable to examine the practice of non-State armed groups.[10] During the preparation of the present report, the Special Rapporteur has had reason to recall the work of ICRC and non-governmental organizations with regard to the dissemination of humanitarian

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[7] See e.g. Daniel Bethlehem: The methodological framework of the Study, Iain Scobbie: The approach to customary law in the Study and Francoise Hampson: Other areas on international law in relation to the Study inWilmshurst and Breau, *Perspectives...*, pp. 3-14, 15-29 and 50-74, respectively. See also Timothy L.H. McCormack, "An Australian perspective on the ICRC customary international humanitarian law study", in Anthony M. Helm (ed.), *The Law of War in the 21st Century: Weaponry and the Use of Force*, International Law Studies, vol. 82 (United States Naval War College, Newport, Rhode Island, 2006), part II, sect. III.

[8] The most recent update was made on 6 November 2014 and encompasses national legislation from Denmark, Djibouti, Poland, Somalia and Tajikistan (https://www.icrc.org/customary-ihl/eng/docs/home).

[9] The Special Rapporteur suggested that a new paragraph 3 be included in draft conclusion 4 [5] (Requirement of practice), as follows: "Conduct by other non-State actors is not practice for the purposes of formation or identification of customary international law" (see A/CN.4/682, annex).

[10] In the context of non-international armed conflict, there are some non-State armed groups that may be well-organized and well-equipped while others may be ill-equipped and poorly educated. It is rare that non-State armed groups use air and missile warfare in non-international armed conflict. However, there are indications that this might change, given the fact that non-State armed groups are already in possession of drones or missiles. There are signs of non-State armed groups with their own air force. With respect to naval warfare, it can be noted that the naval wing of the Liberation Tigers of Tamil Eelam (LTTE) (the Sea Tigers) was important during the Sri Lankan civil war. It has been reported that the LTTE craft varied from heavily armed gunboats, troop carriers to ocean-going supply vessels and that they possessed a radar-evading stealth boat as well as sophisticated communication systems. It is further asserted that the Sea Tigers had a diving unit that tasked with infiltrating harbours to lay mines. See N. Manoharan, "Tigers with Fins: Naval Wing of the LTTE", Institute of Peace and Conflict Studies, 1 June 2005, available from http://ipcs.org/article/terrorism-in-sri-lanka/tigers-with-fins-naval-wing-of-the-ltte-1757.html.

law to such armed groups. The non-governmental organization Geneva Call,[11] the aim of which is to promote respect by armed non-State actors for international humanitarian norms in armed conflict and other situations of violence, has established a directory of armed non-State actor humanitarian commitments, a database in which agreements between such actors and States can be found.[12] In general, however, not much of this information is publicly available. For those reasons, the Special Rapporteur has been unable to examine the practice of non-State armed groups. This is somewhat regrettable because it is in the interaction between States and non-State armed groups that evidence of State practice may be identified.

10. The present report is based on an examination of relevant treaties on the law of war and on related disarmament treaties. Occasionally, it is difficult to categorize treaties as either humanitarian law treaties or disarmament treaties. The report contains a brief study of specially regulated areas, such as nuclear-weapon-free zones and natural heritage zones. This is done in direct response to suggestions by members of the Commission and States. To obtain an overview of those types of treaty regimes, it was considered appropriate to refer to them in the same report.

11. Furthermore, the report contains a section on relevant case law. Given the amount of case law that may have a connection with the topic, a careful selection of the most pertinent cases has been made.

12. The literature on almost every single aspect of the law of armed conflict is immense. To make the report both readable and practical, direct references to literature in footnotes are strictly limited. A more extensive list of the literature consulted can be found in annex II. The report is already heavily loaded with footnotes. If considered appropriate, references to comments and analysis by authors that have contributed to the doctrine may be elaborated upon in future commentaries.

13. The report addresses the use of weapons as part of any means of warfare because all weapons to be used in armed conflict are subject to the law of armed conflict. Rules and principles on, for example, precautions in attack, distinction, proportionality, military necessity and humanity apply equally. With few exceptions, such as with landmines, the law of armed conflict (*jus in bello*) does not contain specific rules pertaining to specific weapons. The present report does not discuss the use of weapons that are prohibited in international treaties (such as chemical weapons and biological weapons).

14. Situations of occupation are also not dealt with herein. The reason is that occupation often extends beyond the time when active military hostilities have ceased. In addition, compensation for breaches of the law of occupation may be linked to both compensation for a breach of a *jus ad bellum* rule and a rule that is connected with the obligation of the occupying power. There is a close connection to private property rights. Occupation will therefore be addressed in the forthcoming third report.

15. The connection between the legal protection of natural resources and the natural environment may need further examination. States have made the connection in their statements in the Sixth Committee and reportedly in their national

[11] http://www.genevacall.org.

[12] http://theirwords.org/pages/home.

legislation and regulations. The Security Council has in many resolutions addressed the connection between armed conflict and natural resources and much of the work of the United Nations Environment Programme (UNEP) focuses on the same issue. Such a connection relates to all three temporal phases of this work: preventive measures, conduct of hostilities and reparative measures. A line, however, must be drawn; that is to say, natural resources as a cause of conflict will not be addressed per se.

III. Consultations in the Commission at its sixty-sixth session (2014)

16. At its sixty-sixth session, in 2014, the Commission held a general debate on the basis of the preliminary report submitted by the Special Rapporteur (A/CN.4/674 and Corr.1).[13]

17. There was broad recognition of the importance of the topic and its overall purpose. Members generally agreed that the focus of the work should be to clarify the rules and principles of international environmental law applicable in relation to armed conflicts. Several members agreed with the Special Rapporteur that the Commission should not modify the law on armed conflict. On the other hand, some members were of the view that, in the light of the minimal treatment of the environment in the law of armed conflict, further elaboration of environmental obligations in armed conflict might be warranted.

18. There was general support for the temporal, three-phased approach adopted by the Special Rapporteur, with some members indicating that such an approach would facilitate the work. It was suggested that the temporal distinction would enable the Commission to focus on preparation and prevention measures in phase I and reparation and reconstruction measures in phase III. Some other members, however, raised concerns regarding an overly strict adherence to the temporal approach, noting that the Special Rapporteur herself had made clear in her report that it was not possible to make a strict differentiation between the phases. In developing guidelines or conclusions, several members were of the view that it would be difficult and inadvisable to maintain a strict differentiation between the phases, as many relevant rules were applicable during all three phases.

19. The weight that should be accorded to phase II, namely, obligations relating to the protection of the environment during an armed conflict, was the subject of considerable debate. Several members were of the view that phase II should be the core of the project given that consideration of the other two phases was inherently linked to obligations arising during armed conflict. According to those members, the law of armed conflict relevant to the protection of the environment was limited and did not reflect the present-day realities of armed conflict and the risk it poses to the environment. Several other members stressed that, as proposed by the Special Rapporteur, the Commission should not focus its work on phase II, as the law of armed conflict was *lex specialis* and contained rules relating to the protection of the environment.

[13] See A/69/10, paras. 192-213. For a more comprehensive presentation of the debate, see summary records A/CN.4/SR.3227-3231.

20. There was also substantial discussion of limitations on the scope. Some members were of the view that the issue of weapons should be excluded from the topic, as proposed by the Special Rapporteur, while some others argued that a comprehensive treatment of the topic would necessarily include consideration of weapons. It was suggested that it could be clarified that the work on the topic was without prejudice to existing rules on specific weapons.

21. Finally, questions were raised about the proposal to consider non-international armed conflicts. While there was widespread agreement with the proposal to address such conflicts, some members indicated that their inclusion would necessitate study of whether non-State actors were bound by the law of armed conflict or by obligations that were identified as arising under phases I and III.

IV. Debate in the Sixth Committee of the General Assembly at its sixty-ninth session (2014)

22. Some 32 States addressed the topic during the sixty-ninth session of the Sixth Committee of the General Assembly, based on the report of the International Law Commission on the work of its sixty-sixth session (2014) (A/69/10).[14] A large number of States indicated the importance of the topic[15] and several made substantive statements. Three delegations expressed concerns about the feasibility of the topic.[16]

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[14] Austria (A/C.6/69/SR.25, paras. 109-111), Belarus (A/C.6/69/SR.26, paras. 26-28), Czech Republic (A/C.6/69/SR.26, para. 41), Norway (on behalf of the Nordic countries: Denmark, Finland, Iceland, Norway and Sweden) (A/C.6/69/SR.25, paras. 131-134), France (A/C.6/69/SR.22, para. 32), Greece (A/C.6/69/SR.26, paras. 32-34), Hungary (A/C.6/69/SR.24, para. 38), India (A/C.6/69/SR.26, para. 110), Indonesia (A/C.6/69/SR.27, paras. 67-68), Iran (Islamic Republic of) (A/C.6/69/SR.27, paras. 11-13), Israel (A/C.6/69/SR.25, paras. 86-87), Italy (A/C.6/69/SR.22, para. 52), Japan (A/C.6/69/SR.26, para 77), Republic of Korea (A/C.6/69/SR.27, paras. 73-74), Malaysia (A/C.6/69/SR.27, paras. 47-49), Netherlands (A/C.6/69/SR.26, para. 52), New Zealand (A/C.6/69/SR.27, paras. 2-4), Peru (A/C.6/69/SR.25, paras. 122-126), Poland (A/C.6/69/SR.26, para. 61), Portugal (A/C.6/69/SR.26 paras. 6-9), Romania (A/C.6/69/SR.26, paras. 86-87), Russian Federation (A/C.6/69/SR.25, paras. 99-102), Singapore (A/C.6/69/SR.26, paras. 66-67), South Africa (A/C.6/69/SR.26, para. 96), Spain (A/C.6/69/SR.26, para. 104), Switzerland (A/C.6/69/SR.26, paras. 44-45), United Kingdom of Great Britain and Northern Ireland (A/C.6/69/SR.26, paras. 15-16) and United States of America (A/C.6/69/SR.27, paras. 24-25). The statements are available from https://papersmart.unmeetings.org/ga/sixth/69th-session/programme. The present report will nonetheless as often as possible refer to the summary records of the debate, as is the common practice of the Commission.

[15] Norway (on behalf of the Nordic countries) (A/C.6/69/SR.25, para. 131); statement by the Czech Republic to the Sixth Committee, sixty-ninth Session, 3 November 2014; statement by South Africa to the Sixth Committee, sixty-ninth Session, 3 November 2014; India, (A/C.6/69/SR.26, para. 110); statement by New Zealand to the Sixth Committee, sixty-ninth Session, 5 November 2014; statement by the Republic of Korea to the Sixth Committee, sixty-ninth Session, 5 November 2014; statement by Poland to the Sixth Committee, sixty-ninth Session, 3 November 2014.

[16] France (A/C.6/69/SR.22, para. 32), Russian Federation (A/C.6/69/SR.25, para. 99) and Spain (A/C.6/69/SR.26, para. 104).

23. A large number of delegations welcomed the temporal approach adopted by the Special Rapporteur[17] and agreed that it was not possible to draw a strict dividing line between the three phases (i.e. prior to, during and after an armed conflict).[18] A few delegations reiterated their doubts as regards the feasibility of the temporal methodology[19] and one remarked that a thematic approach might be considered instead.[20] Three States commented that the Commission should consider embarking on a progressive development exercise if the existing protection regime were held to be insufficient.[21]

24. The approach of the Special Rapporteur in defining and limiting the scope of the topic was welcomed by a number of delegations,[22] with some others expressing the view that the topic should not be unduly limited.[23] The issue of whether protection of cultural and natural heritage should be addressed as part of the topic was raised by a large number of delegations.[24] In addition, various views concerning the precise scope of the topic were voiced, including on whether to consider issues relating to human rights,[25] indigenous peoples,[26] refugees,[27] internally displaced persons[28] and the effect of weapons on the environment.[29]

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[17] Norway (on behalf of the Nordic countries) (A/C.6/69/SR.25, para. 133), Portugal (A/C.6/69/SR.26, para. 6), Belarus (A/C.6/69/SR.26, para. 27), Greece (A/C.6/69/SR.26, para. 32), Czech Republic (A/C.6/69/SR.26, para. 41), Singapore (A/C.6/69/SR.26, para. 66), India (A/C.6/69/SR.26, para. 110), New Zealand (A/C.6/69/SR.27, para. 3) and Indonesia (A/C.6/69/SR.27, para. 67).

[18] Norway (on behalf of the Nordic countries) (A/C.6/69/SR.25, para. 133), Portugal (A/C.6/69/SR.26, para. 6), Singapore (A/C.6/69/SR.26, para. 66), New Zealand (A/C.6/69/SR.27, para. 3) and Indonesia (A/C.6/69/SR.27, para. 67).

[19] Italy (A/C.6/69/SR.22, para. 52), Russian Federation (A/C.6/69/SR.25, para. 101), Spain (A/C.6/69/SR.26, para. 104) and Republic of Korea (A/C.6/69/SR.27, para. 73).

[20] Italy (A/C.6/69/SR.22, para. 52).

[21] Portugal (A/C.6/69/SR.26, para. 7), Iran (Islamic Republic of) (A/C.6/69/SR.27, para. 11) and statement by New Zealand to the Sixth Committee, sixty-ninth Session, 5 November 2014.

[22] Israel (A/C.6/69/SR.25, para. 87), Russian Federation (A/C.6/69/SR.25, para. 102), Norway (on behalf of the Nordic countries) (A/C.6/69/SR.25, para. 133), United Kingdom (A/C.6/69/SR.26, para. 16) and Netherlands (A/C.6/69/SR.26, para. 52).

[23] Italy (A/C.6/69/SR.22, para. 52) and Peru (A/C.6/69/SR.25, para. 124).

[24] Greece (A/C.6/69/SR.26, para. 32), Italy (A/C.6/69/SR.22, para. 52), Israel (A/C.6/69/SR.25, para. 87), Russian Federation (A/C.6/69/SR.25, para. 102), Austria (A/C.6/69/SR.25, para. 110), United Kingdom (A/C.6/69/SR.26, para. 16), Czech Republic (A/C.6/69/SR.26, para. 41), Romania (A/C.6/69/SR.26, para. 87), Malaysia (A/C.6/69/SR.27, para. 47) and Indonesia (A/C.6/69/SR.27, para. 68).

[25] Italy (A/C.6/69/SR.22, para. 52), Israel (A/C.6/69/SR.25, para. 87), United Kingdom (A/C.6/69/SR.26, para. 16), Greece (A/C.6/69/SR.26, para. 33), Switzerland (A/C.6/69/SR.26, para. 45), South Africa (A/C.6/69/SR.26, para. 96), India (A/C.6/69/SR.26, para. 110) and Malaysia (A/C.6/69/SR.27, para. 47).

[26] Israel (A/C.6/69/SR.25, para. 87), Russian Federation (A/C.6/69/SR.25, para. 102), United Kingdom (A/C.6/69/SR.26, para. 16) and United States (A/C.6/69/SR.27, para. 24).

[27] Israel (A/C.6/69/SR.25, para. 87), Russian Federation (A/C.6/69/SR.25, para. 102), India (A/C.6/69/SR.26, para. 110), Iran (Islamic Republic of) (A/C.6/69/SR.27, para. 13) and Malaysia (A/C.6/69/SR.27, para. 47).

[28] Russian Federation (A/C.6/69/SR.25, para. 102), Peru (A/C.6/69/SR.25, para. 124) and Malaysia (A/C.6/69/SR.27, para. 47).

[29] Israel (A/C.6/69/SR.25, para. 87), Russian Federation (A/C.6/69/SR.25, para. 102), Peru (A/C.6/69/SR.25, para. 124), Portugal (A/C.6/69/SR.26, para. 7), United Kingdom (A/C.6/69/SR.26, para. 16), Singapore (A/C.6/69/SR.26, para. 66) and Romania (A/C.6/69/SR.26, para. 87).

25. In relation to the environmental principles identified in the preliminary report, a number of delegations emphasized their relevance to the continued work on the topic.[30] The appropriateness of considering some of those principles in the current context was nonetheless questioned by another delegation.[31] In particular, a number of delegations drew attention to the issue of whether the principle of sustainable development and the need for environmental impact assessment as part of military planning should be included.[32] With regard to the latter, the view was expressed that an analysis of that issue would be welcome.[33] A number of delegations urged the Commission to consider the environmental principles identified in the report and their characteristics in order to determine their applicability in the context of the topic.[34]

26. While some delegations questioned the need to develop definitions of the terms "environment" and "armed conflict",[35] others were of the view that such definitions could prove useful; the view was also expressed that the Commission should develop broad working definitions in order not to limit prematurely its consideration of the topic.[36] The definition of "environment" adopted by the Commission in the principles on the allocation of loss in the case of transboundary harm arising out of hazardous activities was supported by a number of delegations as an appropriate starting point.[37] Concerning the term "armed conflict", some delegations were of the view that the definition contained in international humanitarian law should be retained.[38] The definition provided by the *Tadić* case[39] was also referenced, as was the definition contained in the work of the Commission on the effects of armed conflicts on treaties.[40] While some delegations questioned the appropriateness of addressing situations of non-international armed conflicts and conflicts between organized armed groups or between such groups within a State,[41]

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[30] Peru (A/C.6/69/SR.25, paras 123-126), Belarus (A/C.6/69/SR.26, para. 28), Greece (A/C.6/69/SR.26, para. 33), Malaysia (A/C.6/69/SR.27, para. 48), Indonesia (A/C.6/69/SR.27, para. 68) and statement by the Czech Republic to the Sixth Committee, sixty-ninth session, 3 November 2014.

[31] United States (A/C.6/69/SR.27, para. 24).

[32] Greece (A/C.6/69/SR.26, para. 33), Spain (A/C.6/69/SR.26, para. 104), United States (A/C.6/69/SR.27, para. 24) and United Kingdom (A/C.6/69/SR.26, para. 16).

[33] Romania (A/C.6/69/SR.26, para. 87).

[34] Singapore (A/C.6/69/SR.26, paras. 67-68), Indonesia (A/C.6/69/SR.27, para. 68) and United States (A/C.6/69/SR.27, para. 24).

[35] France (A/C.6/69/SR.22, para. 32), Romania (A/C.6/69/SR.26, para. 86) and statement by the Netherlands to the Sixth Committee, sixty-ninth session, 3 November 2014.

[36] Statement by the Republic of Korea to the Sixth Committee, sixty-ninth session, 5 November 2014; New Zealand (A/C.6/69/SR.27, para. 4); statement by Malaysia to the Sixth Committee, sixty-ninth session, 5 November 2014; statement by Switzerland to the Sixth Committee, sixty-ninth session, 3 November 2014; and statement by Austria to the Sixth Committee, sixty-ninth session, 3 November 2014.

[37] Statements by Austria (A/C.6/69/SR.25, para. 110) and New Zealand (A/C.6/69/SR.27, para. 4).

[38] Austria (A/C.6/69/SR.25, para. 110), Belarus (A/C.6/69/SR.26, para. 27), Netherlands (A/C.6/69/SR.26, para. 52) and statement by France to the Sixth Committee, sixty-ninth session, 29 October 2014.

[39] *Prosecutor v. Duško Tadić*, ICTY case No. IT-94-1-A72, Appeals Chamber, 2 October 1995, para. 70. See statement by Switzerland (A/C.6/69/SR.26, para. 44).

[40] Republic of Korea (A/C.6/69/SR.27, para. 73).

[41] Belarus (A/C.6/69/SR.26, para. 28); Iran (Islamic Republic of) (A/C.6/69/SR.27, para. 13); statement by Spain to the Sixth Committee, sixty-ninth session, 3 November 2014; and statement by France to the Sixth Committee, sixty-ninth session, 29 October 2014.

a number of others considered that such situations should be addressed.[42] Some delegations expressed the view that situations of limited intensity of hostilities should not fall within the scope of the topic.[43]

27. As regards the final form of the work of the Commission on the topic, it was observed by some delegations that it was premature to take a stance on that issue.[44] Nonetheless, a number of delegations mentioned their preference for non-binding guidelines[45] or for a handbook.[46]

28. During the debate, a number of States gave examples of national and regional practice in the form of, for example, legislation, case law and military manuals. The Special Rapporteur remains grateful for those helpful comments and encourages other States to provide such examples of national practice for the purposes of the work of the Commission on this topic.

V. Responses to specific issues on which comments would be of particular interest to the Commission

29. In its report on the work of its sixty-sixth session, the Commission, in accordance with established practice, sought information on specific issues on which comments would be of particular interest to it.[47] The request partly repeated the request made by the Commission at its sixty-fifth session.[48] However, clarification of the request was made, whereby the Commission expressed the wish for "information from States as to whether they have any instruments aimed at protecting the environment in relation to armed conflicts", with examples of such instruments to include but not be limited to "national legislation and regulations; military manuals, standard operating procedures, rules of engagement or status of forces agreements applicable during international operations; and environmental management policies related to defence-related activities".[49]

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[42] Austria (A/C.6/69/SR.25, para. 110), Portugal (A/C.6/69/SR.26, para. 8), Switzerland (A/C.6/69/SR.26, para. 44), Indonesia (A/C.6/69/SR.27, para. 68) and Republic of Korea (A/C.6/69/SR.27, para. 73).

[43] Austria (A/C.6/69/SR.25, para. 110), Portugal (A/C.6/69/SR.26, para. 8) and United Kingdom (A/C.6/69/SR.26, para. 16).

[44] Portugal (A/C.6/69/SR.26, para. 8) and South Africa (A/C.6/69/SR.26, para. 96).

[45] Israel (A/C.6/69/SR.25, para. 86), United Kingdom (A/C.6/69/SR.26, para. 16), Singapore (A/C.6/69/SR.26, para. 67) and statement by the Republic of Korea to the Sixth Committee, sixty-ninth session, 5 November 2014.

[46] Italy (A/C.6/69/SR.22, para. 52).

[47] A/69/10, para. 31.

[48] Ibid., "The Commission requests information from States, by 31 January 2015, on whether, in their practice, international or domestic environmental law has been interpreted as applicable in relation to international or non-international armed conflict. The Commission would particularly appreciate receiving examples of:
(a) treaties, including relevant regional or bilateral treaties;
(b) national legislation relevant to the topic, including legislation implementing regional or bilateral treaties;
(c) case-law in which international or domestic environmental law was applied to disputes in relation to armed conflict."

[49] A/69/10, para. 32.

30. The following States responded to the Commission's request: Austria, Belgium, Cuba, Czech Republic, Finland, Germany, Peru, Republic of Korea, Spain and United Kingdom of Great Britain and Northern Ireland.

31. Austria commented that it was party to the Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques (ENMOD Convention) and to the Protocols Additional to the Geneva Conventions of 12 August 1949 and relating to the protection of victims of armed conflicts. Austria noted that both contained provisions on the protection of the environment in armed conflicts.

32. In addition, Austria reported that recent amendments to its Criminal Code had criminalized the launching of an attack in connection with an armed conflict in the knowledge that such an attack would cause widespread, long-term and severe damage to the natural environment. Further regulations that had been elaborated by the responsible ministry included internal rules for the armed forces concerning the protection of the environment. They comprised guidelines for the protection of the environment during multinational operations and exercises both in Austria and abroad, implementing rules for the protection of the environment during multinational operations and exercises abroad and implementing rules for exploration and surrender in the area of environmental protection during operations abroad. In addition, a regulation of duty for the armed forces on environmental protection had also been issued. Environmental protection had been included in regulations of duty for the army concerning tactical and operational processes.[50]

33. Belgium reported that its Penal Code provided that war crimes envisaged in the 1949 Geneva Conventions and in the 1977 Additional Protocols I and II, as well as in article 8, paragraph 2 (f), of the 1998 Rome Statute of the International Criminal Court, constituted crimes under international law and should be punished in accordance with the relevant provisions of the Code.[51] Among those crimes, launching a deliberate attack in the knowledge that such an attack would cause widespread, long-term and severe damage to the natural environment that would be excessive in relation to the concrete and direct military advantage anticipated had also been included.[52] Belgium also reported that it had developed an operational manual for all of the operations of its military forces; the manual would be published in the near future.

34. Cuba reported that its National Defence Act stipulated that the country's defence preparedness should be compatible with the protection of the environment. That included an obligation to reconcile economic development with the protection of the environment.[53]

35. The Czech Republic responded that there was no separate national law or regulation concerning the protection of the environment in connection with the prohibition of methods and means of warfare causing widespread, long-term or

[50] Note verbale dated 11 March 2015 from the Permanent Mission of Austria to the United Nations addressed to the Secretariat. Austria also refers to its statements to the Sixth Committee of the General Assembly in 2013 and 2014 (both which were attached to the note verbale).

[51] Note verbale dated 28 April 2015 from the Permanent Mission of the Kingdom of Belgium to the United Nations addressed to the Secretariat.

[52] Belgium, Penal Code (Code pénal), article 136 quater, para. 1 (22), or sect. 1er, 22°.

[53] Note verbale dated 3 February 2015 from the Permanent Mission of Cuba to the United Nations addressed to the Office of the Secretary-General.

severe damage to the environment. However, the obligations arising from the international treaties that formed part of the legal order of the Czech Republic (including the ENMOD Convention) were applied directly on the basis of its Constitution.

36. The Professional Soldiers Act of the Czech Republic required soldiers to respect the international rules of war and international humanitarian law, as well as national law. The Field Regulations of the Land Forces of the Army of the Czech Republic essentially reiterated those obligations but also contained very specific provisions directly relevant to the country's obligations in relation to the protection of the environment in the context of the law of armed conflict. Article 49 contained a general rule to the effect that, in the context of all activities of the armed forces, it was necessary to bear in mind the need to respect international humanitarian law and the need to protect the population, the environment and cultural heritage, among other things. Article 57 declared that measures to protect the armed forces from the undesirable effects of their own weapons and other equipment included measures to protect the environment. Those measures were based on adopted conventions that prohibited the use of military and any other means that altered the environment. In addition, commanders should, insofar as necessary, restrict the use of means and methods of warfare that had widespread, long-term or severe effects affecting the environment.

37. In addition, the basic regulations of the armed forces of the Czech Republic mentioned the obligation to protect the environment, albeit as a general clause with no direct relation to the law of armed conflict.[54]

38. Germany submitted a brief presentation on the Federal Armed Forces Regulations on Environmental Protection in Armed Conflicts.[55] Measures to ensure the protection of the environment while on mission included those on ground and water protection, control of emissions, the safe disposal of medical waste, a closed-cycle economy and waste management. Germany advised that, to fulfil their duty of care, the federal armed forces protected the lives and health of their members as well as their other employees, including when they were on mission. During missions abroad, German environmental law provided the basis for efforts to protect nature and the environment. When undertaking tasks, the principle of providing the best possible protection for the relevant personnel while limiting damage as much as possible applied.

39. Germany reported that, in principle, its national law applied only to its territory and to federal armed forces watercraft and aircraft. As a general rule, however, German national legislation and standards applied to missions abroad, where German environmental law provided the basis for efforts to protect nature and the environment insofar as international law provisions, intergovernmental treaties or applicable local law did not stipulate otherwise. In addition, legal arrangements in relation to the protection of the environment were incorporated into the instructions for each mission.

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[54] Note verbale dated 13 February 2015 from the Permanent Mission of the Czech Republic to the United Nations addressed to the Secretary of the International Law Commission.

[55] Note verbale dated 4 February 2015 from the Permanent Mission of the Federal Republic of Germany to the United Nations addressed to the Office of Legal Affairs of the Secretariat. Germany also referred to its note verbale No. 475/2013 (see A/CN.4/674, para. 22).

40. Germany stated that, during missions and exercises led by the North Atlantic Treaty Organization (NATO), the provisions of the NATO Military Principles and Policies for Environmental Protection and its Standardization Agreements must be respected.

41. Germany noted that protecting the environment was an ongoing task at all leadership levels and part of all phases of the planning and conduct of operations and that the legal arrangements were incorporated into the instructions for each mission. It reported that the designated lead nation was responsible for the basic environmental protection regulations during multinational missions. Apart from that, Germany was responsible for rectifying environmental damage caused by the federal armed forces, in accordance with applicable international law.

42. Ground and water protection was specifically mentioned by Germany. Accidents and incidents involving, for example, field tank installations that had caused or could cause environmental damage, in particular ground or water contamination, were to be documented in an environmental condition report.

43. Finland reported that, in general, Finnish environmental law was hardly binding outside Finland but, in certain cases, Finnish citizens could be subject to Finnish criminal law when travelling abroad. According to the environmental policy of the Finnish armed forces, the Finnish defence forces strove for the same level of environmental protection in military crises management as when operating in Finland.[56] In addition, the environmental law of the host State was respected. Finland explained that the word "respected" had been carefully selected because it did not imply that the local legislation would at all times be followed. The principle was that the operation came first, meaning that, if conditions were difficult, a lower level of environmental protection would at times be justified. According to Finland, that interpretation was based on NATO doctrines and used by, for example, the forces of the United States of America.

44. Finland had not taken the stance anywhere whereby Finnish environmental law should apply to its deployed forces, although it expected the same level of engagement whenever possible. It pointed out that such application could be difficult in practice given that Finnish regulatory control was heavily based on a permit system.

45. In response to a second question posed by the Commission, Finland responded that there was plenty of documentation that helped in protecting the environment during armed conflict. Reference was made to NATO doctrines and Standardization Agreements on how environmental issues were to be included in operational planning, as well as to the educatory part of NATO school courses.[57]

46. Finland, Sweden and the United States had together developed a manual (joint guidebook) on environmental policy in military operations.[58] Finland also hosted a biannual conference on defence and the environment.[59]

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[56] International Organization for Standardization (ISO) standard 14001. See also A/CN.4/674, paras. 31-33. For more information regarding ISO standards on environmental protection, see ISO, *Environmental Management: The ISO 14000 Family of International Standards*, available from www.iso.org/iso/theiso14000family_2009.pdf.

[57] See A/CN.4/674, paras. 45 and 46.

[58] Environmental Guidebook for Military Operations, March 2008. Available at http://www.defmin.fi/files/1256/Guidebook_final_printing_version.pdf. See also A/CN.4/674, para. 40 and note 70.

47. Peru reported that it had no national legislation that explicitly addressed the protection of the environment in relation to armed conflicts. Peru was neither party to any international convention that explicitly dealt with the topic nor had it been involved in any international dispute relating to that topic.

48. In reference to General Assembly resolution 56/4, in which the Assembly had declared 6 November each year as the International Day for Preventing the Exploitation of the Environment in War and Armed Conflict, Peru noted that it was inspired by the principle that the environment needed protection against damage that in times of armed conflict impaired ecosystems and natural resources for a long time, often long beyond the period of conflict. Such damage would undermine the sustainability upheld in international instruments to which Peru was party, such as the Convention on International Trade in Endangered Species of Wild Fauna and Flora, the Convention concerning the Protection of the World Cultural and Natural Heritage (World Heritage Convention), the Convention on Biological Diversity, the Vienna Convention for the Protection of the Ozone Layer, the Montreal Protocol on Substances that Deplete the Ozone Layer and the United Nations Framework Convention on Climate Change.

49. Given that the framework for peacetime obligations to respect the environment was well established, Peru suggested that the topic of protection of the environment should be studied by analysing the Geneva Conventions in accordance with the national and international framework for respect of the environment. Consideration should be given to treaties concerning the arms trade in times of war and its implications for the aforementioned instruments, along with its direct impact on human beings, the environment, ecosystems, public health and sustainability.

50. In analysing the consequences for the environment, Peru observed that all negative impacts would need to be assessed, including the pollution caused by the leakage of fuels and chemicals unleashed by bombs; the indiscriminate plundering of natural resources by armed contingents; the dangers posed by mines to land, housing and lives; unexploded ordnance and other remnants of war; and the negative impact of mass movements of people on water, biodiversity and ecosystems. Peru noted that mass displacements of people in conflict zones had led to severe deforestation, soil degradation and excessive exploitation of underground water resources in the vicinity of huge camps established for displaced persons.

51. New technologies posed unknown threats to the environment and would also need to be taken into consideration. Peru underlined that parties to hostilities had a responsibility to abide by international rules and agreements, such as the Geneva Conventions, which governed the conduct of war. Some of those rules, such as the prohibition against the deliberate destruction of farmland, were important for the environment.

52. Peru stressed that it was committed to the recommendations of the Special Rapporteur aimed at implementing the principles of prevention and precaution during armed conflicts. Those principles were recognized not just in the Declaration of the United Nations Conference on the Human Environment and the Rio Declaration on Environment and Development but also in the 1993 Constitution (currently in effect), which recognized the principle of sustainability, respect for the

[59] Note verbale dated 30 January 2015 from the Permanent Mission of Finland to the United Nations addressed to the Office of Legal Affairs of the Secretariat.

right to a balanced and appropriate environment and the protection of biodiversity; in its national environmental policy, which was geared towards stewardship of natural resources; and in specific environmental legislation embodied in national environment protection programmes.

53. Peru provided a non-exhaustive list of regulations that could have a bearing on the Special Rapporteur's work. The list covered national law (Law regulating the ground transportation of hazardous materials and waste, and National Regulations governing the Ground Transportation of Hazardous Materials and Waste (which included the transportation of weaponry)), a regional treaty (Treaty for the Prohibition of Nuclear Weapons in Latin America and the Caribbean (Treaty of Tlatelolco)) and multilateral agreements, including the Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and Under Water, the Treaty on the Non-Proliferation of Nuclear Weapons, the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction, the Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on Their Destruction and the Comprehensive Nuclear-Test-Ban Treaty.[60]

54. The Republic of Korea submitted information on both its national legislation and relevant international agreements to which it was party.[61] The Act on National Defence and Military Installations Projects required permission and reporting in accordance with the Clean Air Conservation Act and the Forest Protection Act. According to the Environmental Impact Assessment Act, national defence and military facility installation projects were subjected to environmental assessment (Strategy Environmental Assessment).

55. The status-of-forces agreement between the Republic of Korea and the United States, initially signed in 1966, had no provisions concerning the protection of the environment. Environmental provisions had, however, been affixed in 2001 to its subagreements. They reflected the increasing concern over the environment, in particular with regard to the environmental contamination deriving from the United States military bases. In the same year, the Memorandum of Special Understandings on Environmental Protection had been adopted. It explicitly set forth a policy to remedy contamination that presented known imminent and substantial endangerment to human health.

56. Furthermore, the Republic of Korea reported that its Rules on the Service of Military Personnel imposed obligations on military personnel to protect the natural ecosystem and environment and to set up measures to prevent environmental pollution in the discharge of their duties. Under the Rules, a commander was obliged to guide military personnel to protect the environment. The Republic of Korea concluded by referring to its Constitution, according to which generally recognized rules of international law had the same effect as its national laws. Accordingly, articles 35, paragraph 3, and article 55 of Additional Protocol I to the Geneva Conventions applied.

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[60] Note verbale dated 24 February 2015 from the Permanent Mission of Peru to the United Nations addressed to the Secretariat.

[61] Note verbale dated 19 February 2015 from the Permanent Mission of the Republic of Korea to the United Nations addressed to the Secretariat.

57. In its response, Spain advised that it had no legal instrument that specifically regulated the issue of interest to the International Law Commission and that Spain was not party to any international treaty on the topic.

58. Spain noted that the only reference to armed conflict in Spanish environmental legislation was contained in Act No. 26/2007 of 23 October 2007, on environmental liability. The Act regulated the responsibility of operators to prevent, avoid and remedy environmental damage, in accordance with the Constitution, the principle of prevention and the polluter-pays principle. The Act expressly excluded environmental damage resulting from an armed conflict, without specifying whether such conflict was international or non-international. Also excluded were activities of which the main purpose was to serve national defence or international security, and activities of which the sole purpose was to protect from natural disasters.

59. Spain reported that its Penal Code defined a series of actions as offences against natural resources and the environment and as offences relating to the protection of flora and fauna. The section on offences against persons and property to be protected in the event of armed conflict stipulated that anyone who, in the context of an armed conflict, used or ordered the use of methods or means of combat that were prohibited or were intended to cause unnecessary suffering or superfluous injury, or that were designed to or could reasonably be expected to cause excessive, lasting and serious damage to the natural environment, thus compromising the health or survival of the population, or who ordered that no quarter should be given, should be penalized with a term of imprisonment of from 10 to 15 years, without prejudice to the penalty imposed for the resulting damage. Spain further reported that there was no national case law of relevance for the present topic arising from that legislation.[62]

60. In its response, the United Kingdom referred to the Standardization Agreements that set out the NATO doctrine on the protection of the environment. Two examples were Standardization Agreement No. 2581, concerning environmental protection standards and norms for military compounds in NATO operations and environmental protection standards and best practices for NATO camps in NATO operations, and Standardization Agreement No. 2594, on best environmental protection practices for sustainability of military training areas. The United Kingdom also referred to its military doctrine and *The Manual of the Law of Armed Conflict*, issued by the Ministry of Defence.[63]

VI. Practice of States and international organizations

61. During the debate in the Sixth Committee, a number of States referred to their legislation, regulations and case law, as well as environmental policy considerations, in relation to armed conflicts. For example, **New Zealand** remarked that a draft law of armed conflict manual, which contained provisions on the relationship between the protection of the environment and armed conflict, was being prepared to replace the 1992 *Military Manual*. The latter already contained

[62] Note verbale dated 17 March 2015 from the Permanent Mission of Spain to the United Nations addressed to the Secretariat.

[63] Letter dated 18 February 2015 from the Permanent Mission of the United Kingdom to the United Nations addressed to the Secretary-General. The joint doctrine publication is available from https://www.gov.uk/government/collections/joint-doctrine-publication-jdp and *The Manual of the Law of Armed Conflict*, Joint Service Publication 383, is available at from https://www.gov.uk/government/collections/sp-383.

provisions on protecting the environment from long-term, severe and widespread damage. When finalized, the provisions of the manual would constitute orders issued by the Chief of Defence Force pursuant to the 1990 Defence Act.[64]

62. **Peru** observed in its remarks to the Sixth Committee that the principles of precaution and prevention were recognized by its Constitution, which also acknowledged sustainable development and the right to a balanced environment, as well as the protection of biodiversity.[65]

63. **Malaysia** underscored in its statement to the Committee that measures to protect and preserve the environment within the administrative and operational scope of the Malaysian armed forces were generally based on national legislation, primarily the Environmental Quality Act of 1974, as well as enabling laws, such as the National Forestry Act of 1984 and the Wildlife Conservation Act of 2010. Moreover, the Malaysian armed forces were reviewing a number of their rules of engagement, with steps being taken to incorporate provisions in relation to environmental protection, such as procedures on the storage and disposal of petrol, oil and lubricants, the disposal of waste in the field, a prohibition against hunting of wildlife in operational areas and appropriate management of military lands that would limit environmental degradation.[66]

64. **Poland** provided information about national acts that had been developed, such as the Ordinance of the Minister of National Defence Identifying Bodies with Oversight Responsibilities for Environmental Protection. Reports on the fulfilment of those requirements by organizational units of the Polish armed forces were drawn up annually.[67]

65. **Hungary** observed that, in addition to being a party to several international treaties that directly or indirectly ensured the protection of the environment during armed conflicts, such as Additional Protocol I to the Geneva Conventions, the World Heritage Convention and the ENMOD Convention and the Rome Statute, relevant NATO standards were considered primary applicable legislation. To comply with the principles and requirements laid down in those instruments, the Ministry of Defence had developed an environmental protection doctrine that stipulated a comprehensive system of tasks relating to environmental protection based on national and European Union laws as well as NATO standards.[68]

66. **Romania** commented that the Committee for Administering the Mechanism for Promoting Implementation and Compliance of the Basel Convention could prove useful in accessing additional information on the practice of States and international organizations.[69]

67. In addition to the information on State practice provided by a number of States in direct response to the invitation issued by the Commission and during the Sixth Committee debate, information was communicated to the Commission and to the Special Rapporteur in connection with her preliminary report issued[70] in 2014. This strengthened the Special Rapporteur's conviction that a considerable number of

[64] New Zealand (A/C.6/69/SR.27, para. 2).

[65] Peru (A/C.6/69/SR.25, para. 126).

[66] Statement by Malaysia to the Sixth Committee, sixty-ninth session, 5 November 2014.

[67] Statement by Poland to the Sixth Committee, sixty-ninth session, 3 November 2014.

[68] Statement by Hungary to the Sixth Committee, sixty-ninth session, 31 October 2014.

[69] Statement by Romania to the Sixth Committee, sixty-ninth session, 3 November 2014.

[70] Including practice of some ten States and additional practice of regional organizations such as NATO, see A/CN.4/674, sects. IV and V.

States have legislation or regulations in force aimed at protecting the environment in relation to armed conflicts.[71] The Special Rapporteur remains grateful for the helpful information already provided and expresses the hope that even more States will follow in providing such examples of State practice.

Additional information on State practice

68. In addition to the information provided by States in their statements to the Sixth Committee and in response to the request posed by the Commission in its annual report, information on State practice is also available through the web page of ICRC. The ICRC customary international humanitarian law web page contains extensive information on the codification, interpretation and application of international humanitarian law by States. This is second-hand information and, for the purposes of the present report, needs to be treated as such, given that the Special Rapporteur has not been in a position to evaluate the original information provided by States to ICRC. ICRC itself provides a disclaimer of caution, albeit more focused on the comprehensiveness of the information than on its content.[72] At the same time, the information available on the web page is too important to be disregarded. For the purposes of the present report, it seems sufficient to focus on the State practice upon which ICRC has developed the three rules in the ICRC customary law study that regulate the protection of the environment, namely, rules 43 to 45.[73]

69. The most extensive practice relates to the obligation not to cause widespread, long-term and severe damage and to the ENMOD Convention. Practice in relation to the application of general principles on the conduct of hostilities to the natural environment (rule 43) is more limited; only 10 States are reported to have included such instructions in their military manuals.[74] National legislation is, however, more extensive; reportedly, some 23 States have such legislation.[75]

70. With regard to practice relating to due regard for the natural environment in military operations (rule 44), nine States have instructions in their military manuals.[76] Only one has adopted national legislation on this issue.[77]

71. The reported practice relating to rule 45 (causing serious damage to the natural environment) is more extensive. The information is divided into two sections. The first deals with widespread, long-term and severe damage, and the second with

[71] See also A/CN.4/674, para. 24.

[72] ICRC provides the following disclaimer: "The content of the [National Implementation Database], legislation and case laws, is drawn from information collected by the Advisory Service and sent to it by States. Accordingly, whilst the database content is not necessarily exhaustive, it provides a comprehensive overview on [international humanitarian law] implementation measures taken by all States" (https://www.icrc.org/ihl-nat). The Special Rapporteur also notes some inconsistencies in the manner in which the information is provided.

[73] The text of the rules can be found in Jean-Marie Henckaerts, "Study on customary international humanitarian law: a contribution to the understanding and respect for the rule of law in armed conflict", *International Review of the Red Cross*, vol. 87, No. 857 (2005), annex. Available from https://www.icrc.org/customary-ihl/eng/docs/home.

[74] Australia, Belgium, Burundi, Chad, Côte d'Ivoire, Italy, Mexico, Netherlands, United Kingdom and United States.

[75] Australia, Belgium, Burundi, Canada, Congo, Czech Republic, Democratic Republic of the Congo, Denmark, Finland, France, Georgia, Germany, Iraq, Ireland, Netherlands, New Zealand, Nicaragua, Norway, Senegal, Slovakia, South Africa, Spain and United Kingdom.

[76] Australia, Burundi, Cameroon, Côte d'Ivoire, Netherlands, Republic of Korea, Ukraine, United Kingdom and United States.

[77] Denmark.

environmental modification techniques, that is, the ENMOD Convention. According to the information provided, at least 26 States have regulated the question on the protection of the environment relating to widespread, long-term and severe damage in their military manuals[78] and some 36 have adopted relevant national legislation.[79]

72. With regard to the second part of the rule (ENMOD Convention), 15 States have included instructions in their military manuals[80] and 3 have adopted relevant national legislation.[81]

73. Only one national case law has been reported, the so-called Agent Orange case in the United States.[82]

74. The ICRC customary international humanitarian law web page also contains relevant State practice relating to other rules contained in its customary law study.[83] Rather than a comprehensive overview, the web page provides examples of State practice. Of particular interest is the State practice reported in relation to the principle of precautions in attack and the principle of proportionality. The United States has noted that both of those principles contribute to protecting natural resources from collateral damage.[84] Several States appear to have military manuals that require them to gather intelligence also on the natural environment as part of the principle of precautions in attack.[85] At least two States make a connection

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[78] Argentina, Australia, Belgium, Benin, Burundi, Canada, Central African Republic, Chad, Colombia, Côte d'Ivoire, France, Germany, Italy, Kenya, Netherlands, New Zealand, Peru, Russian Federation, South Africa, Spain, Sweden, Switzerland, Togo, Ukraine, United Kingdom and United States. The former Socialist Federal Republic of Yugoslavia is omitted by the Special Rapporteur.

[79] Armenia, Australia, Azerbaijan, Belarus, Belgium, Bosnia and Herzegovina, Burundi, Canada, Colombia, Congo, Croatia, Denmark, Estonia, Ethiopia, Georgia, Germany, Ireland, Kazakhstan, Kyrgyzstan, Mali, Netherlands, New Zealand, Norway, Peru, Republic of Korea, Republic of Moldova, Russian Federation, Serbia, Slovenia, South Africa, Spain, Tajikistan, Ukraine, United Kingdom, Uruguay and Viet Nam. The former Socialist Federal Republic of Yugoslavia is omitted by the Special Rapporteur.

[80] Australia, Burundi, Canada, Chad, France, Germany, Indonesia, Israel, Netherlands, New Zealand, Republic of Korea, Russian Federation, Sierra Leone, South Africa and Spain.

[81] Denmark, Senegal and Uruguay.

[82] *Vietnam Association for Victims of Agent Orange/Dioxin et al. v. Dow Chemical Co. et al.* (District Court for the Eastern District of New York) Memorandum, Order and Judgment of 28 March 2005, 373 F. Supp. 2d 7 (2005), affirmed in Court of Appeals for the Second Circuit Decision of 22 February 2008, 517 F.3d 76 (2008).

[83] Such information relate to rule 8 (Definition of Military Objectives), rule 12 (Definition of Indiscriminate Attacks), rule 14 (Proportionality in Attack), rule 15 (The Principle of Precautions in Attack), rule 17 (Choice of Means and Methods of Warfare), rule 42 (Works and Installations Containing Dangerous Forces), rule 50 (Destruction and Seizure of Property of an Adversary), rule 51(Public and Private Property in Occupied Territory), rule 54 (Attacks against Objects Indispensable to the Survival of the Civilian Population), rule 70 (Weapons of a Nature to Cause Superfluous Injury or Unnecessary Suffering), rule 71 (Weapons That Are by Nature Indiscriminate), rule 74 (Chemical Weapons), rule 75 (Riot Control Agents), rule 76 (Herbicides), rule 84 (The Protection of Civilians and Civilian Objects from the Effects of Incendiary Weapons), and rule 147 (Reprisals against Protected Objects). The relevant State practice is found at https://www.icrc.org/customary-ihl/eng/docs/v2.

[84] United States, Department of Defense, Report to Congress on International Policies and Procedures regarding the Protection of Natural and Cultural Resources during Times of War, 19 January 1993, p. 202.

[85] Australia, Benin, Central African Republic, Peru and Togo. The Kenyan Manual contains a similar requirement when evaluating the effects of weapons and ammunition.

between the protection of works and installations containing dangerous forces and the protection of the environment.[86] Natural resources have been considered by the United States as benefiting from protection equivalent to that afforded to civilian objects and thus immune from intentional attack, while the same State has also qualified natural resources as legitimate targets in situations where they may be of value to the enemy.[87] Regarding situations of occupation, the manual of the United Kingdom explicitly prohibits the extensive destruction of the natural environment that is not justified by military necessity.[88]

75. At least five States[89] have adopted in their military manuals language very similar to article 2, paragraph 4, of Protocol III (Prohibitions or Restrictions on the Use of Incendiary Weapons) to the Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons Which May Be Deemed to Be Excessively Injurious or to Have Indiscriminate Effects (Conventional Weapons Convention), while in its manual Cameroon has taken it a step further by expressly stating that incendiary weapons cannot be used against the environment.

76. Express prohibition of reprisals against the natural environment are found in the military manuals of a number of States, such as Australia, Canada, Chad, Côte d'Ivoire, Croatia, Germany, Hungary, Italy, the Netherlands, New Zealand, Peru, Spain, Ukraine and the United Kingdom.

Secretary-General's Bulletin on observance by United Nations forces of international humanitarian law[90]

77. The Secretary-General promulgated a bulletin on observance by United Nations forces of international humanitarian law in 1999. It contains one reference to the protection of the environment, repeating the wording of article 35, paragraph 3, of Additional Protocol I.[91] One author considers the customary law nature of the rules on the protection of the environment at the time of the promulgation of the Bulletin to be debateable but notes that, one decade later, they were either already or in the process of becoming customary international law.[92] The author points out that prohibitions on employing a method of combat intended or expected to cause long-

[86] Israel's Manual on the Rules of Warfare (2006) considers "the ban on attacking installations if doing so would damage the environment" as customary law, and under Lithuania's Criminal Code (1961), as amended in 1998, it is a war crime to undertake "a military attack against an object posing a great threat to the environment and people — a nuclear plant, a dam, a storage facility of hazardous substances or other similar object — knowing that it might have extremely grave consequences".

[87] United States, Department of Defense, Report to Congress on International Policies and Procedures regarding the Protection of Natural and Cultural Resources during Times of War, *supra* note 84, pp. 202 and 204.

[88] United Kingdom, *The Manual of the Law of Armed Conflict*, Ministry of Defence, 1 July 2004, para. 11.91.

[89] Australia, Canada, Côte d'Ivoire, Germany and Russian Federation.

[90] ST/SGB/1999/13 of 6 August 1999.

[91] The only difference is that the phrase "means of warfare" is omitted in the Bulletin. Section 6.3 reads: "The United Nations force is prohibited from employing methods of warfare which may cause superfluous injury or unnecessary suffering, or which are intended, or may be expected to cause, widespread, long-term and severe damage to the natural environment".

[92] Daphna Shraga, "The Secretary-General's Bulletin on the Observance by the United Nations Forces of International Humanitarian Law: A Decade Later", *Israel Yearbook on Human Rights*, vol. 39 (2009), p. 357, at p. 368. The author is a former Principal Legal Adviser at the United Nations Office of Legal Affairs.

term, widespread and severe damage to the natural environment, on destroying objects indispensable to the survival of the civilian population, and on attacking installations containing dangerous forces which may result in their release and consequent severe losses among the civilian population, were innovative at the time of their adoption in the 1977 Additional Protocols and remained so at the time of their inclusion in the Bulletin. She underlines that, given their importance to human survival and the likely catastrophic consequences that their violation would entail for the natural environment and the civilian population at large, the three prohibitions were included in the Bulletin in fine disregard of their less than customary international law nature and as a statement of the United Nations undertaking to abide by the highest standards of international humanitarian law in the conduct of its military operations.[93]

78. Almost a decade later, the United Nations had developed environmental policies for its peace operations through its Environmental Policy for United Nations Field Missions (June 2009). A few years later, in 2012, UNEP, the Department of Peacekeeping Operations and the Department of Field Support introduced a common report, *Greening the Blue Helmets*.[94] The basis of the report is that United Nations peacekeeping operations should lead by example. The report therefore identifies good practice and behaviour and shows how peacekeeping operations can help to support and build national capabilities for better environmental management.[95] Given that the focus of the present report is on the law of armed conflict, it suffices here to mention the broader work by the United Nations in the context of peacekeeping operations. There are reasons to return to that work in a subsequent report.[96]

Resolutions of the Security Council

79. The Security Council has addressed the protection of the environment and natural resources in relation to armed conflicts in many of its resolutions. As at 31 December 2014, the Council had adopted 2,195 resolutions, of which 242 (or 11 per cent) addressed natural resources in some manner.[97] This is a clear indication of the connection between the threat to international peace and security and the protection of the environment and natural resources.

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[93] Ibid., p. 371. The applicability of the law of occupation is not addressed in the Secretary-General's Bulletin, see ibid., p. 375.

[94] *Greening the Blue Helmets, Environment, Natural Resources and UN Peacekeeping Operations* (UNEP, 2012). Information on the work done by the United Nations can be found at http://www.un.org/en/peacekeeping/issues/environment/approach.shtml. One of its basic documents is the "*Environmental Guidebook for Military Operations*", published in 2008. It is a non-binding guidebook aimed at giving operational planners "the necessary tools to incorporate environmental considerations throughout the life cycle of the operation" at http://www.unep.org/disastersandconflicts/Introduction/EnvironmentalCooperationforPeacebuilding/GreeningtheBlueHelmetReport/tabid/101797/Default.aspx.

[95] Ibid., p. 5. Another key theme is related to "the role that peacekeeping operations play in stabilizing countries where violent conflicts are financed by natural resources ...".

[96] For a recapitulation of the work done by the United Nations, see e.g. Vasilka Sancin, "Peace Operations and the Protection of the Environment", in Vasilca Sancin (ed.) and Masa Kovic Dine (assistant ed), *International Environmental Law: Contemporary Concerns and Challenges* (Ljubljana: GV Založba, 2012) pp. 187-207.

[97] In addition to these resolutions, many other resolutions address natural resources after conflict; these are not cited herein, since the present report is primarily focused on actions *in bello*.

80. Of the 242 resolutions, relatively few explicitly address wartime pollution or spoliation of the environment. Those that do include resolution 540 (1983), to the extent that it relates to the obligation to refrain from harming the marine environment during the Islamic Republic of Iran-Iraq war, and resolution 687 (1991), which concerns presumed liability for environmental damage as a result of the unlawful invasion and illegal occupation of Kuwait by Iraq. Resolution 661 (1990) should also be mentioned in this context.

81. With the establishment, pursuant to Security Council resolution 687 (1991), of the United Nations Compensation Commission to adjudicate claims, including environmental claims, other resolutions are indirectly relevant, namely, resolutions 692 (1991), 986 (1995), 1153 (1998), 1483 (2003) and 1546 (2004), as they relate to the general operation of the Commission. Those resolutions will be discussed in a subsequent report on the post-conflict phase.

82. The Security Council has on several occasions condemned the targeting of oil installations, pipelines and other facilities.[98] In some resolutions, it has referred to the need to protect oil installations, albeit without any direct reference to the protection of the environment.[99]

83. The Security Council has in numerous resolutions addressed the use of natural resources (gold, diamonds, minerals, charcoal and opium poppy, among others) in financing armed conflict. Afghanistan stands out as a particular case. Although many resolutions are framed in the context of terrorism and violence,[100] they are an indication of the role that natural resources play in the context of financing terrorism and/or armed conflict.

84. The Security Council has on numerous occasions addressed the natural heritage and natural resources in the context of the conflict in the Central African Republic and the Democratic Republic of the Congo. In resolution 2121 (2013), it condemned the devastation of natural heritage and noted that poaching and trafficking of wildlife were among the factors that fuelled the crisis in the Central African Republic.[101] In resolution 2127 (2013), adopted some months later, it condemned the illegal exploitation of natural resources in the Central African Republic which contributed to the perpetuation of the conflict.[102] Moreover, its resolution 2134 (2014) contains provisions on sanctions for individuals that have been providing support for armed groups or criminal networks through the illicit exploitation of natural resources, including diamonds and wildlife and wildlife products, in the Central African Republic.[103] Lastly, in resolution 2149 (2014), the Council concluded that one of the prioritized tasks within the mandate of the United Nations Multidimensional Integrated Stabilization Mission in the Central African

[98] Security Council resolutions 2046 (2012), 2051 (2012) and 2155 (2014).

[99] Security Council resolutions 2075 (2012), 2076 (2012) and 2156 (2014).

[100] Security Council resolutions 1746 (2007), 1806 (2008), 1817 (2008), 1917 (2010), 1974 (2011), 2020 (2011), 2041 (2012), 2069 (2012), 2096 (2013) and 2156 (2014). Earlier resolutions, including 1659 (2006), 1662 (2006) and 1868 (2009), are not as explicit about the role of poppy in financing the Taliban and Al-Qaida. It should also be noted that the referred resolutions are only a partial tally of the relevant resolutions on Afghanistan.

[101] Security Council resolution 2121 (2013), fifteenth preambular paragraph.

[102] Security Council resolution 2127 (2013), para. 16.

[103] Security Council resolution 2134 (2014), para. 37 (d).

Republic should be to advise the transitional authorities on efforts to keep armed groups from exploiting natural resources.[104]

85. With regard to the Democratic Republic of the Congo, a number of resolutions have been adopted that relate to natural resources and the environment. For example, Security Council resolutions 1291 (2000), 1304 (2000), 1323 (2000), 1332 (2000), 1376 (2001), 1991 (2011), 2021 (2011) and 2053 (2012) all relate to the country's natural resources and express the Council's concern at their exploitation. From February 2001 onwards, the tone of resolutions concerning the country changed and focused on the plunder (or pillage) of its natural resources during armed conflict.[105]

86. The linkage between natural resources and armed conflicts has also been emphasized in Security Council resolutions on Liberia,[106] Libya,[107] Sierra Leone[108] and Somalia.[109] On specific topics, resolutions on the Kimberley Process,[110] as well as those concerning the linkages between the illegal exploitation of natural resources and the proliferation and trafficking of arms,[111] have underscored the importance of natural resources and protection of the natural environment during armed conflict.

87. In conclusion, whereas a large number of the resolutions deal with areas that fall outside the scope of the present topic and while a number of the relevant resolutions bear mainly on the post-conflict phase, which is to be dealt with in the forthcoming report, the sheer volume of resolutions provides ample evidence of the importance that the Security Council has assigned to environmental protection in times of armed conflict.

Other organizations

88. As indicated in the preliminary report, NATO has a wide-ranging ambition to take the protection of the environment into account in its operational planning and when engaging in missions.[112] Member States are required to follow the NATO Standardization Agreements. So-called partnership States often adhere to the same standards, partly as a matter of policy and partly because of the requirements of interoperability. Some NATO member States and NATO partnership States have

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[104] Security Council resolution 2149 (2014), para. 31 (d).

[105] See e.g. Security Council resolutions 1341 (2001), 1355 (2001), 1457 (2003), 1499 (2003), 1533 (2004), 1565 (2004) and 1592 (2005). It should be noted in this context that such pillaging and plundering, although not noted by the Security Council specifically in the resolution, is a war crime; see e.g. the Nuremberg Charter, article 6 (b), the Statute of the International Criminal Tribunal for the Former Yugoslavia, article 3(e) and Geneva Convention IV, article 33.

[106] Security Council resolutions 1343 (2001), 1408 (2002) and 1478 (2003).

[107] See Security Council resolution 2146 (2014), concerning banning of illicit crude oil export and safeguarding of the country's national resources, and resolution 2174 (2014), regarding sanctions against individuals providing support for armed groups through illicit export of crude oil or any other natural resources.

[108] Security Council resolution 1306 (2000).

[109] Security Council resolutions 2036 (2012), 2060 (2012), 2111 (2013) and 2124 (2013).

[110] Security Council resolution 1459 (2003), which observes that diamonds fuel conflict.

[111] Security Council resolution 2117 (2013).

[112] A/CN.4/674, paras. 45-46.

referred to this in their statements to the Sixth Committee of the General Assembly and in their responses to the Commission.[113]

89. The European Union also has adopted standards and rules with the aim of greening military operations. In 2012, its member States agreed for the first time on the European Union Military Concept on Environmental Protection and Energy Efficiency for European Union-led military operations,[114] the aim of which is to establish the principles and the responsibilities to meet the requirements of environmental protection during such operations. The Military Concept aims to provide strategic guidance for the consideration of environmental protection during all phases of European Union-led military operations. It also extends to the protection of cultural property.[115] Also adopted was the Concept for European Union-led Military Operations and Missions, agreed upon by the European Union Military Committee on 19 December 2014, in accordance with which environmental awareness is to be considered in all phases of such operations and missions and in predeployment training.[116]

90. The Special Rapporteur has not been in a position to obtain information from other regional organizations, such as the African Union, and would therefore welcome any additional information from those organizations.

Conclusions

91. As shown above, a considerable number of States have legislation or regulations in force aimed at protecting the environment in relation to armed conflicts. An increasing number of States and international organizations have adopted measures to ensure that the environment is protected during military operations. The measures range from policies to legally binding regulations. It is also possible to conclude that the adoption of measures relating to the planning of a military operation as well as a post-conflict operation is increasingly frequent. The measures are, in many cases, more stringently formulated than corresponding national rules applicable during an armed conflict as such. In the latter situations, States rely on the international treaties by which they are bound (such as the Additional Protocol and the ENMOD Convention), including well-established principles of international humanitarian law.[117] Only one State, Finland, has stated that the operation comes first, by which it means that, if conditions are difficult, a lower level of environmental protection is sometimes justified. According to Finland, its interpretation is based on NATO doctrines and is used by, for example,

[113] See A/CN.4/674, Finland (para. 32), Germany (para. 27), Denmark (para. 30) and NATO (paras. 45 and 46). See also the present report, responses by Germany (para. 40), Finland (para. 45) and United Kingdom (para. 60). Hungary also referred to the NATO Standardization Agreements and other relevant documents in its statement to the Sixth Committee at the sixty-ninth session, on 31 October 2014. (see para. 65 above).

[114] European Union Military Concept on Environmental Protection and Energy Efficiency for European Union-led Military Operations (EEAS 13758/12, dated 14 September 2012). The engagement of the European Community in the matter dates back to a time when the European Union (at that time, European Communities) did not have any military component. See e.g. Michael Bothe and others, *Protection of the Environment in Times of Armed Conflict*, Report to the Commission of the European Communities, SJ/110/85 (1985).

[115] For a discussion of the concept see, Hans-Bjoern Fischhaber, "Military Concept on Environmental Protection and Energy: Efficiency for EU-led operations: Real Commitments or Another Paper Tiger?" Energy Security Highlights, vol. 10 (2012), pp. 22-24.

[116] European External Action Service document, EEAS 00990/6/14 Rev. 6.

[117] See also A/CN.4/674, para. 24.

United States forces. States have not otherwise addressed whether environmental treaties cease to be applicable during an armed conflict. Some States (primarily Latin American and Caribbean States) have indicated that provisions aimed at protecting the environment and at promoting sustainable development in their national legislation (including constitutions) continue to apply should an armed conflict occur.

VII. Legal cases and judgements

92. International jurisprudence on the protection of the environment in relation to armed conflicts is not all that extensive, but it does exist.

93. To identify such cases, the Special Rapporteur has reviewed the jurisprudence of international and regional courts and tribunals.

94. In particular, the analysis aimed to identify existing case law that either (a) applied provisions of international humanitarian treaty law that directly or indirectly protect the environment during times of armed conflict, or (b) considered, explicitly or implicitly, that there is a connection between armed conflicts and the protection of the environment. In addition, cases relating to the situation of peoples and civilian populations have also been reviewed.

95. The analysis primarily included a thorough review of judgements and advisory opinions rendered by the following international courts and tribunals: International Court of Justice, Permanent Court of International Justice, International Criminal Court, International Tribunal for the Former Yugoslavia, International Criminal Tribunal for Rwanda, Extraordinary Chambers in the Courts of Cambodia and Special Court for Sierra Leone. The jurisprudence of three regional courts has also been studied, namely, the jurisprudence of the African Court on Human and Peoples' Rights, the Inter-American Court of Human Rights and the European Court of Human Rights. Given that the last-mentioned has handed down some 17,000 judgements,[118] it was necessary to limit the review to the most pertinent cases.[119] In addition to the jurisprudence of the courts mentioned above, the review also comprised relevant jurisprudence of the Nuremberg Military Tribunals, the United Nations War Crimes Commission and the International Tribunal for the Law of the Sea.[120]

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[118] Octavian Ichim, *Just Satisfaction under the European Convention on Human Rights* (Cambridge, Cambridge University Press, 2014), p. i.

[119] See e.g. the Factsheet on Armed Conflict, November 2014, published by ECHR, available at http://www.echr.coe.int/Documents/FS_Armed_conflicts_ENG.pdf.

[120] The Permanent Court of International Justice and the African Court of Human and Peoples' Rights have not delivered any judgments or advisory opinions that meet the criteria described above. In this regard, it is worth noting that the "Permanent Court of International Justice did not deal with the laws of war in any of its decisions" (Claus Kress, "The International Court of Justice and the Law of Armed Conflicts", in Christian J. Tams and James Sloan (eds.), *The Development of International Law by the International Court of Justice* (Oxford, Oxford University Press, 2013), p. 263). Indeed, "for a range of reasons, States chose (...) not to use the Permanent Court as a means of addressing (or mounting pressure in) highly contentious disputes" (Christian J. Tams, "The Contentious Jurisdiction of the Permanent Court", in Christian J. Tams and Malgosia Fitzmaurice (eds.), *Legacies of the Permanent Court of International Justice* (Leiden, Martinus Nijhoff Publishers, 2013), p. 28). Cases from the United Nations Compensation Commission are not included since the focus of most of these cases is on compensation. They will be dealt with in the forthcoming report.

96. Strictly speaking, a distinction must be made between the protection of the environment as such and the protection of natural objects in the natural environment and natural resources.[121] This is not without problem. The law of occupation applicable during armed conflict contains rules governing the protection of property and natural resources that are relevant to the discussion of the protection of the environment as such. Some of these cases are included in the review, partly because they are directly relevant and partly to serve as an illustration.

97. There may also be a close link between human rights and international humanitarian law.[122] In this respect, it is worth considering the recurring statement of the International Court of Justice:

> The protection offered by human rights conventions does not cease in case of armed conflict, save through the effect of provisions for derogation of the kind to be found in article 4 of the International Covenant on Civil and Political Rights. As regards the relationship between international humanitarian law and human rights law, there are thus three possible situations: some rights may be exclusively matters of international humanitarian law; others may be exclusively matters of human rights law; yet others may be matters of both these branches of international law. In order to answer the question put to it, the Court will have to take into consideration both these branches of international law, namely human rights law and, as *lex specialis*, international humanitarian law.[123]

98. This was not the first time that the Court had addressed human rights and humanitarian concerns. It had previously done so in the *Corfu Channel* case[124] and later, notably, in *Military and Paramilitary Activities in and against Nicaragua*.[125]

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[121] See sect. VIII of the present report, on law applicable during armed conflict.

[122] For a comprehensive overview, see Louise Doswald-Beck, *Human Rights in Times of Conflict and Terrorism* (Oxford, Oxford University Press, 2011).

[123] *Legal Consequences of the Construction of a Wall in the Occupied Palestinian Territory, Advisory Opinion, I.C.J. Reports 2004*, para. 106. The Court quotes this passage in *Armed Activities on the Territory of the Congo (Democratic Republic of the Congo* v. *Uganda), Judgment, I.C.J. Reports 2005*, para. 216, stating that "the protection offered by human rights conventions does not cease in case of armed conflict, save through the effect of provisions for derogation of the kind to be found in article 4 of the International Covenant on Civil and Political Rights".

[124] *Corfu Channel case, Judgment of April 9th, 1949: I.C.J. Reports 1949*, p. 22. The Court remarked that the obligations incumbent upon the Albanian authorities to provide notification the existence of a minefield in Albanian territory were not based "on the Hague Convention of 1907, No. VIII, which is applicable in time of war, but on certain general and well-recognized principles, namely: elementary considerations of humanity, even more exacting in peace than in war; the principle of the freedom of maritime communication; and every State's obligation not to allow knowingly its territory to be used for acts contrary to the rights of other States".

[125] "Article 3 which is common to all four Geneva Conventions of 12 August 1949 defines certain rules to be applied in the armed conflicts of a non-international character. There is no doubt that, in the event of international armed conflicts, these rules also constitute a minimum yardstick, in addition to the more elaborate rules which are also to apply to international conflict; and they are rules which, in the Court's opinion, reflect what the Court in 1949 called "elementary considerations of humanity" (*Corfu Channel ...*)". *Military and Paramilitary Activities in and against Nicaragua (Nicaragua* v. *United States of America), Merits, Judgment, I.C.J. Reports 1986*, para. 218.

The view has also been confirmed by other courts, such as the International Criminal Tribunal for Rwanda.[126]

99. The link between the protection of property and livelihood brings human rights into the analysis. There is a considerable amount of case law that addresses these matters. Although the protection of property and livelihood has a different and much earlier origin than the protection of the environment, the case law is of interest because the idea of protecting nature and its natural resources has a connection with a more recent ambition to protect the environment as such.

100. The Inter-American Court of Human Rights has also addressed issues relating to the protection of the right of indigenous peoples to their lands and natural resources.

Cases where the court or tribunal has applied provisions of international humanitarian treaty law that directly or indirectly protect the environment during times of armed conflict

101. The International Court of Justice, in a few of its decisions, has applied international humanitarian treaty law in addressing the need to protect the environment during times of armed conflict.

102. In its advisory opinion on the legality of the threat or use of nuclear weapons, the International Court of Justice stated that "States must take environmental considerations into account when assessing what is necessary and proportionate in the pursuit of legitimate military objectives",[127] supporting its approach by referring to the terms of principle 24 of the Rio Declaration on Environment and Development.[128] The Court noted that article 35, paragraph 3, and article 55 of Additional Protocol I provided additional protection for the environment.[129] It concluded that "taken together, these provisions embody a general obligation to protect the natural environment against widespread, long-term and severe environmental damage; the prohibition of methods and means of warfare which are intended, or may be expected, to cause such damage; and the prohibition of attacks against the natural environment by way of reprisals".[130]

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[126] "In this respect, it is important to recall a recent statement of the [International Committee of the Red Cross] that, 'It should be stressed that in war time international humanitarian law coexists with human rights law, certain provisions of which cannot be derogated from. Protecting the individual vis-à-vis the enemy, (as opposed to protecting the individual vis-à-vis his own authorities) is one of the characteristics of the law of armed conflict. A state at war cannot use the conflict as a pretext for ignoring the provisions of that law ...'". International Criminal Tribunal for Rwanda, Case No. ICTR-95-1-T, *Prosecutor* v. *Clément Kayishema et al.*, Trial Chamber, Judgment, 21 May 1999, para. 622.

[127] *Legality of the Threat or Use of Nuclear Weapons, Advisory Opinion, I.C.J. Reports 1996*, para. 30. The question posed to the Court reads: "Is the threat or use of nuclear weapons in any circumstances permitted under international law?". The question has both an element of *jus ad bellum* and of *jus in bello*.

[128] Declaration on Environment and Development (Rio Declaration), 1992, *International Legal Materials*, vol. 31 (1992), p. 874.

[129] Protocol Additional to the Geneva Conventions of 12 August 1949 and relating to the protection of victims of international armed conflicts (Additional Protocol I), 1977, United Nations, *Treaty Series*, vol. 1125, No. 17512, p. 3.

[130] *Legality of the Threat or Use of Nuclear Weapons...*, para. 31.

103. The Court does not mention the environment in the operative section of its advisory opinion but draws the general conclusion that "it follows from the above-mentioned requirements that the threat or use of nuclear weapons would generally be contrary to the rules of international law applicable in armed conflict, and in particular the principles and rules of humanitarian law".[131]

104. It is clear that the Court has embraced the rules regarding the protection of the environment in its analysis. At the same time, the formulation is rather sweeping and difficult to connect to a particular rule of humanitarian law. This sweeping formulation is likely to be due to the fact that the Court did not deliver a unanimous advisory opinion (it was adopted with the President's casting vote) and has been criticized by some of the dissenting judges.[132]

105. The Eritrea-Ethiopia Claims Commission has also touched upon the issue of directly applying humanitarian law in relation to environmental protection. The two-year war between the two countries had resulted in extensive environmental damage, and Ethiopia sought damages for the destruction by the Eritrean forces of gum arabic and resin plants, the loss of trees and seedlings and damage to terraces.[133] Ethiopia primarily argued that the damage was the result of a violation by Eritrea of the *jus in bello*; alternatively, it claimed that it was a result of a violation of the *jus ad bellum*. The Commission, however, rejected both approaches for lack of proof and stated that the allegations and evidence of destruction of environmental resources fell well below the standard of widespread and long-lasting environmental damage required for liability under international humanitarian law.[134]

106. In the case concerning *Armed Activities on the Territory of the Congo*, the International Court of Justice considered that it had ample credible and persuasive evidence to conclude that officers and soldiers of the Uganda People's Defence Forces were involved in the looting, plundering and exploitation of the natural resources of the Democratic Republic of the Congo and that the military authorities had not taken any measures to put an end to those acts. It concluded also that, whenever members of the Uganda People's Defence Forces were involved in the looting, plundering and exploitation of natural resources in the territory of the Democratic Republic of the Congo, they had acted in violation of the *jus in bello*,

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[131] Ibid., para. 105, para. (2), sect. E. For the purposes of the present report, there is no need to analyse the second part of the operative part of the opinion: "However, in view of the current state of international law, and of the elements of fact at its disposal, the Court cannot conclude definitively whether the threat or use of nuclear weapons would be lawful or unlawful in an extreme circumstance of self-defence, in which the very survival of a State would be at stake". This has been criticised, inter alia, for conflating *jus ad bellum* and *jus in bello* and for creating an exception to the application of international humanitarian law. See e.g. Yoram Dinstein, *War, Aggression and Self-defence*, 5th edition. (Cambridge, Cambridge University Press, 2011), p. 173.

[132] See in particular, the dissenting opinion of Judge Higgins, *Legality of the Threat or Use of Nuclear Weapons*, at paras. 2, 7, 9 and 10.

[133] Ethiopia's Damages, Final Award, para. 422.

[134] Ethiopia's Central Front Claim, Partial award, para 100; see also Ethiopia's Damages, Final Award, para. 425. For a full account of the case, see Sean D. Murphy, Won Kidane, Thomas R. Snider, *Litigating War: Arbitration of Civil Injury by the Eritrea-Ethiopia Claims Commission* (Oxford; New York: Oxford University Press, 2013).

which prohibited the commission of such acts by a foreign army in the territory in which it was present.[135]

107. The Court found that Uganda was responsible for acts of looting, plundering and exploitation of the natural resources of the Democratic Republic of the Congo, for violating its obligation of vigilance in regard to those acts and for failing to comply with its obligations under article 43 of the Hague Regulations concerning the Laws and Customs of War on Land as an occupying Power.[136]

108. It is also noteworthy that, even as early as 1948, the United Nations War Crimes Commission stated in *Case No. 7150* that the Germans had wilfully felled the Polish forests without the least regard to the basic principles of forestry and had therefore committed a war crime.[137]

Cases where the court or tribunal has considered, explicitly or implicitly, that there is a connection between armed conflicts and the protection of the environment

109. In addition to the cases discussed above, the International Court of Justice has considered the explicit or implicit connection between armed conflicts and the protection of the environment on three separate occasions. First, in the 1986 case concerning *Military and Paramilitary Activities in and against Nicaragua*, the Court indicated that the protection of human rights, a strictly humanitarian objective, could not be compatible with, inter alia, the mining of ports and destruction of oil installations.[138] Second, in the 1995 *Request for an Examination of the Situation in Accordance with Paragraph 63 of the Court's Judgment of 20 December 1974 in the* Nuclear Tests (New Zealand *v.* France) *Case*, the request was dismissed, but the Court noted that its decision was "without prejudice to the obligations of States to respect and protect the natural environment".[139] Lastly, in its order from 2000 concerning the request for provisional measures in *Armed Activities on the Territory of the Congo*, the Court mentioned that the "resources present on the territory of the Congo, particularly in the area of conflict, remain extremely vulnerable, and that there is a serious risk that the rights at issue in this case ... may suffer irreparable prejudice".[140]

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[135] *Armed Activities on the Territory of the Congo*, paras. 242 and 245.

[136] Ibid., para. 250. Article 43 of the Regulations, done at The Hague on 18 October 1907 (*Consolidated Treaty Series*, vol. 207, p. 295), reads: "The authority of the legitimate power having in fact passed into the hands of the occupant, the latter shall take all the measures in his power to restore, and ensure, as far as possible, public order and safety, while respecting, unless absolutely prevented, the laws in force in the country".

[137] *History of the United Nations War Crimes Commission and the Development of the Laws of War* (London, Her Majesty's Stationery Office, 1948), p. 496.

[138] *Military and Paramilitary Activities in and against Nicaragua*, para. 268.

[139] *Request for an Examination of the Situation in Accordance with Paragraph 63 of the Court's Judgment of 20 December 1974 in the* Nuclear Tests (New Zealand v. France) *Case, I.C.J. Reports 1995*, para. 64.

[140] *Armed Activities on the Territory of the Congo (Democratic Republic of the Congo v. Uganda), Provisional Measures, Order of 1 July 2000, I.C.J. Reports 2000*, para. 43.

Cases where the court or tribunal has addressed the situation of peoples and civilian population

110. The International Court of Justice has dealt with the situation of peoples in the case concerning the *Legal Consequences of the Construction of a Wall in the Occupied Palestinian Territory*. The Court stated that with the construction of the wall there had been "serious repercussions for agricultural production"[141] and found that Israel had the obligation to make reparation for the damage caused by the requisition and destruction of agricultural holdings.[142]

111. The International Criminal Court also addressed the situation of peoples in its trials of two Congolese militia leaders accused of war crimes and crimes against humanity in the attack on the village of Bogoro from January to March 2003. The attackers had looted and destroyed livestock, religious buildings and homes owned and occupied by the Bogoro population.[143] The Court noted that the destroyed and looted property belonging to the civilian population of Bogoro was essential to their daily lives and important for their survival.[144]

112. In several cases, the International Tribunal for the Former Yugoslavia has addressed the situation of people in circumstances where there has either been wanton destruction of cities, towns or villages or devastation not justified by military necessity.[145] The Tribunal has also touched upon the issue of how certain property or economic rights can be considered fundamental enough that their denial constitutes persecution, such as cases in which the complete destruction of homes and property constitutes a destruction of the livelihood of a certain population.[146]

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[141] *Legal Consequences of the Construction of a Wall in the Occupied Palestinian Territory*, para. 133.

[142] Ibid., para. 152.

[143] *Prosecutor v. Germain Katanga*, Trial Chamber, Judgment Pursuant to Article 74 of the Statute, Case No. ICC-01/04-01/07, 7 March 2014, paras. 924, 932; *Prosecutor v. Mathieu Ngudjolo*, Trial Chamber, Judgment Pursuant to Article 74 of the Statute, Case No. ICC-01/04-02/12, 18 December 2012, paras. 334, 338.

[144] *Prosecutor v. Germain Katanga*, paras. 952-953, 1659; see also, *Prosecutor v. Germain Katanga*, Trial Chamber, Judgment Pursuant to Article 76 of the Statute, Case No. ICC-01/04-01/07, 23 May 2014, paras. 44, 51-52.

[145] *Prosecutor v. Milomir Stakić*, Trial Chamber, Judgment, Case No. IT-97-24-T, 31 July 2003, paras. 761-762; see also, *Prosecutor v. Mladen Naletilic et al.*, Trial Chamber, Judgment, Case No. IT-98-34-T, 31 March 2003, para. 578; *Prosecutor v. Radoslav Brdanin*, Trial Chamber, Judgment, Case No. IT-99-36-T, 1 September 2004, paras. 600, 636-639; *Prosecutor v. Radoslav Brdanin*, Appeals Chamber, Judgment, Case No. IT-99-36-A, 3 April 2007, paras. 337, 340-342; *Prosecutor v. Pavle Strugar*, Trial Chamber, Judgment, Case No. IT-01-42-T, 31 January 2005, paras. 283, 297; *Prosecutor v. Enver Hadžihasanović et al.*, Trial Chamber, Judgment, Case No. IT-01-47-T, 15 March 2006, paras. 39, 48; *Prosecutor* v. *Naser Oric*, Trial Chamber, Judgment, Case No. IT-03-68-T, 30 June 2006, paras. 583, 585, 587; *Prosecutor v. Milan Martić*, Trial Chamber, Judgment, Case No. IT-95-11-T, 12 June 2007, paras. 92-93, 355, 360, 374; *Prosecutor v. Ljube Boškoski et al.*, Trial Chamber, Judgment, Case No. IT-04-82-T, 10 July 2008, paras. 351, 380; *Prosecutor v. Ante Gotovina et al.*, Trial Chamber, Judgment (Volume II of II), Case No. IT-06-90-T, 15 April 2011, paras. 1765-1766.

[146] *Prosecutor v. Zoran Kupreškić et al.*, Trial Chamber, Judgment, Case No. IT-95-16-T, 14 January 2000, paras. 630-631; see also, *Prosecutor v. Tihomir Blaškić*, Appeals Chamber, Judgment, Case No. IT-95-14-A, 29 July 2004, paras. 146-148; *Prosecutor* v. *Dario Kordić et al.*, Trial Chamber, Judgment, Case No. IT-95-14/2-T, 26 February 2001, paras. 203, 205-207; *Prosecutor v. Milomir Stakić*, ibid., at paras. 763-768; *Prosecutor v. Blagoje Simić et al.*, Trial Chamber, Judgment, Case No. IT-95-9-T, 17 October 2003, paras. 98-102; *Prosecutor v. Miroslav Deronjić*, Trial

113. The International Criminal Tribunal for Rwanda has addressed these questions as well, although it is worth noting that, as opposed to the Statutes of the International Tribunal for the Former Yugoslavia and the International Criminal Court, its statute does not give it the power to prosecute individuals for acts against property.[147] In several cases, however, the International Criminal Tribunal for Rwanda has discussed the destruction of property and, while not addressing its legality per se, has considered it for the purpose of establishing the crime of genocide.[148] Most of the cases concern the burning and destruction of homes and churches; in *Prosecutor* v. *Emmanuel Rukundo*, however, the actions also included the killing of cattle and the decimation of banana plantations.[149]

114. In *Prosecutor* v. *Nuon Chea et al.*, the Extraordinary Chambers in the Courts of Cambodia found certain Khmer Rouge officials and soldiers to be guilty of the crime against humanity "of other inhumane acts through forced transfer of the population" because they had, among other things, "sought to flush out those in hiding by cutting off the water supply".[150]

115. The Special Court for Sierra Leone, in several cases, addressed the situation of people in relation to the offence of acts of terrorism under article 4, paragraph 2 (d), of Additional Protocol II.[151] In *Prosecutor* v. *Alex Tamba Brima et al.*, the Trial Chamber concluded that property as such was not protected from acts of terrorism, but that the "destruction of people's homes or means of livelihood and ... their means of survival" amounted to such acts.[152]

Chamber, Sentencing Judgment, Case No. IT-02-61-S, 30 March 2004, paras 121-122; *Prosecutor v. Momčilo Krajišnik*, Trial Chamber, Judgment, Case No. IT-00-39-T, 27 September 2006, paras. 778, 783; *Prosecutor v. Milan Milutinović et al.*, Trial Chamber, Judgment, Case No. IT-05-87-T, 26 February 2009, Volume I, para. 207; *Prosecutor v. Vujadin Popović et al.*, Trial Chamber Judgment, Case No. IT-05-88-T, 10 June 2010, paras. 986-987; *Prosecutor v. Vlastimir Đorđević*, Trial Chamber Judgment, Case No. IT-05-87/1-T, 23 February 2011, paras. 1597-1598.

147 Statute of the International Tribunal for the Prosecution of Persons Responsible for Serious Violations of International Humanitarian Law Committed in the Territory of the Former Yugoslavia since 1991, adopted by the Security Council on 25 May 1993, Document S/RES/827 (1993), articles 2-3; 1998 Rome Statute of the International Criminal Court, article 8(2)(b)(iv).

148 *Prosecutor v. Jean-Paul Akayesu*, Trial Chamber, Judgment, Case No. ICTR-96-4-T, 2 September 1998, paras. 714-715; *Prosecutor v. Elizaphan and Gérard Ntakirutimana*, Trial Chamber, Judgment and Sentence, Cases No. ICTR-96-10 & ICTR-96-17-T, 21 February 2003, paras. 828-831; *Prosecutor v. Athanase Seromba*, Trial Chamber, Judgment, Case No. ICTR-01-66-T, 13 December 2006, paras. 334, 365; *Prosecutor v. François Karera*, Trial Chamber, Judgment and Sentence, Case No. ICTR-01-74-T, 7 December 2007, paras. 168, 539; *Prosecutor* v. *Siméon Nchamihigo*, Trial Chamber, Judgment and Sentence, Case No. ICTR-01-63-T, 12 November 2008, para. 284.

149 *Prosecutor* v. *Emmanuel Rukundo*, Trial Chamber, Judgment, Case No. ICTR-2001-70-T, 27 February 2009, paras. 106, 108, 566.

150 *Prosecutor v. Nuon Chea et al.*, Trial Chamber, Judgment, Case 002/01, 7 August 2014, paras. 510, 551 and 552.

151 Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of Non-International Armed Conflicts (Additional Protocol II), 1977, United Nations, *Treaty Series*, vol. 1125, No. 17512, p. 609.

152 *Prosecutor v. Alex Tamba Brima et al.*, Trial Chamber, Judgment, SCSL-04-16-T, 20 June 2007, para. 670; see also, *Prosecutor v. Moinina Fofana et al.*, Trial Chamber, Judgment, SCSL-04-14-T, 2 August 2007, paras. 172-173; *Prosecutor v. Issa Hassan Sesay et al.*, Trial Chamber, Judgment, SCSL-04-15-T, 2 March 2009, para. 115; *Prosecutor v. Charles Ghankay Taylor*, Trial Chamber, Judgment, SCSL-03-01-T, 18 May 2012, paras. 2006, 2192.

116. The situation of indigenous peoples and their property rights in the event of armed conflict has been addressed by the Inter-American Court of Human Rights on a number of occasions. Several cases have examined the destruction of the peoples' communities, houses, livestock, harvests and other means of survival, which has led the Court to find various human rights violations, inter alia, the right to humane treatment and the right to property.[153] It should be noted that, while some of the cases do not reach the threshold of an armed conflict (they refer to "acts of violence"), the Court's reasoning regarding the connection between the indigenous peoples and land is of relevance. *Mayagna (Sumo) Awas Tingni Community* v. *Nicaragua* is a landmark case in which the Court discussed at length the right of indigenous peoples to their property. While not pertaining specifically to the realm of armed conflict, the case discussed in detail common law rights to land arising out of both cultural and agricultural history and uses. To the extent that ownership of land becomes an issue in an armed conflict scenario, language such as this could prove useful in understanding the legal relationship of indigenous or other peoples to the land in question. The case also discussed the harm that can be done to a people as a result of environmentally adverse activities.[154]

117. The Inter-American Court of Human Rights cases show that land does not have to be owned to receive protection. In particular, the Court has referenced article 21 of the American Convention on Human Rights, which protects the close relationship between indigenous peoples and their lands and with the natural resources on their ancestral territories and the intangible elements arising from them,[155] and the Indigenous and Tribal Peoples Convention, 1989 (No. 169), of the International Labour Organization.[156] In *Río Negro Massacres* v. *Guatemala*, the Court discussed the impact on indigenous communities of the destruction of their natural resources and determined that "the culture of the members of the indigenous communities corresponds to a specific way of being, seeing and acting in the world, constituted on the basis of their close relationship with their traditional lands and natural resources, not only because these are their main means of subsistence, but also because they constitute an integral component of their cosmovision, religious beliefs and, consequently, their cultural identity".[157]

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[153] *Plan de Sánchez Massacre v. Guatemala*, Judgment (Merits), Case No. C-105, 29 April 2004, paras. 42(7), 47; *Plan de Sánchez Massacre v. Guatemala*, Judgment (Reparations), Case No. C-116, 19 November 2004, para. 73; *Ituango Massacres v. Colombia*, Judgment (Preliminary Objections, Merits, Reparations and Costs), Case No. C-148, 1 July 2006, paras. 182-183; *Massacres of El Mozote and neighboring locations v. El Salvador*, Judgment (Merits, Reparations and Costs), Case No. C-252, 25 October 2012, paras. 136, 180; *Santo Domingo Massacre v. Colombia*, Judgment (Preliminary Objections, Merits and Reparations), Case No. C-259, 30 November 2012, paras. 228-229, 279; *Afro-Descendant Communities Displaced from the Cacarica River Basin (Operation Genesis) v. Colombia*, Judgment (Preliminary Objections, Merits, Reparations and Costs), Case No. C-270, 20 November 2013, paras. 346, 352, 354, 356, 459.

[154] *Mayagna (Sumo) Awas Tingni Community v. Nicaragua*, Judgment (Merits, Reparations and Costs), Case No. C-79, 31 August 2001, paras. 151, 164. For the discussion of the right to indigenous property, see paras. 140 *et. seq.*

[155] *The Kichwa Indigenous People of Sarayaku* v. *Ecuador*, Judgment (Merits and reparations), Case No. C-245, 27 June 2012, paras. 145 and 156.

[156] Ibid., at para. 163.

[157] *Río Negro Massacres* v. *Guatemala*, Judgment (Preliminary Objection, Merits, Reparations and Costs), Case No. C-250, 4 September 2012, para. 177 n. 266. The Court makes a cross-reference to the *Case of the Yakye Axa Indigenous Community* v. *Paraguay*, Judgment, Case No. C-125, 17 June 2005, para. 135, and the *Case of Chitay Nech et al. v. Guatemala*, Judgment, Case

118. The European Court of Human Rights has primarily addressed the situation of peoples as a matter of private property rights. Protection of the environment per se is not addressed.[158] In a manner similar to that of the Inter-American Court of Human Rights, the European Court has characterized the destruction of homes and other property as a violation of the prohibition of inhuman and degrading treatment,[159] the right to property[160] and the right to respect for one's private and family life and home.[161]

119. It is also worth mentioning that, during the Nuremberg Trials, acts such as plundering, pillage and spoliation of villages, towns and districts were considered war crimes.[162] A number of those decisions dealt with situations of military occupation and discussed how the law of armed conflict (notably, the law of military occupation) applied to the economic exploitation of natural resources, plunder and looting.[163] Notably, this case law verified that there are limitations to the permissible use of natural resources of occupied States.[164]

No. C-212, 25 May 2010, para. 147. See also, *Afro-Descendant Communities Displaced from the Cacarica River Basin (Operation Genesis) v. Colombia*, paras. 346, 352, 354, 356 and 459. The protection offered by article 21 is also mentioned in this case, see para. 346.

[158] See e.g. *Case of Menteş and Others v. Turkey*, Judgment, Application No. 23186/94, 28 November 1997, paras. 13, 21, 23, 76; *Case of Orhan v. Turkey*, Chamber, Judgment, Application No. 25656/94, 18 June 2002, paras. 379-380; *Case of Isayeva and Others v. Russia*, Chamber, Judgment, Application No. 57947/00, 24 February 2005, paras. 171, 230-233; *Case of Esmukhambetov and Others v. Russia*, Judgment, Application No. 23445/03, 29 March 2011, paras. 150 and 174-179; *Elkhan Chiragov and Others v. Armenia*, Judgment, Application No. 13216/05, 14 December 2011, para. 103; *Case of Benzer and Others v. Turkey*, Chamber, Judgment, Application No. 23502/06, 12 November 2013, paras. 133, 184, 207, 212 and 213.

[159] *Case of Menteş and Others v. Turkey*, para. 76; *Case of Benzer and Others v. Turkey*, paras. 207, 212 and 213.

[160] *Case of Orhan v. Turkey*, paras. 379 and 380; *Case of Esmukhambetov and Others v. Russia*, para. 150.

[161] *Case of Orhan v. Turkey*, paras. 379 and 380.

[162] *Trial of the Major War Criminals before the International Military Tribunal*, vol. I (Nuremberg, 1947), pp. 240-241, 296-297 and 324-325; *Law Reports of Trials of War Criminals*, vol. VIII (London, His Majesty's Stationery Office, 1949), p. 31; *Trials of War Criminals Before the Nuremberg Military Tribunals Under Control Council Law No. 10*, vol. XI/2 (Washington, D.C., United States Government Printing Office, 1950), pp. 1253-1254; *Trials of War Criminals Before the Nuremberg Military Tribunals Under Control Council Law No. 10*, vol. IV (Washington, D.C., United States Government Printing Office, 1950), p. 455; *Trials of War Criminals Before the Nuremberg Military Tribunals Under Control Council Law No. 10*, vol. VII (Washington, D.C., United States Government Printing Office, 1953), p. 179; *Trials of War Criminals Before the Nuremberg Military Tribunals Under Control Council Law No. 10*, vol. XIV (Washington, D.C., United States Government Printing Office, 1952), pp. 698-699 and 746-747.

[163] *Trial of the Major War Criminals before the International Military Tribunal*, vol. I (Nuremberg, 1947), pp. 240-241, 296-297 (Hans Frank) and 324-325 (Alfred Jodl).

[164] *Trials of War Criminals Before the Nuremberg Military Tribunals Under Control Council Law No. 10*, vol. VII (Washington, D.C., United States Government Printing Office, 1953), p. 179; *Trials of War Criminals Before the Nuremberg Military Tribunals Under Control Council Law No. 10*, vol. XIV, pp. 698-699 and 746-747.

VIII. Law applicable during armed conflict

A. Treaty provisions on the protection of the environment and the law of armed conflict

120. The need to protect the environment in times of armed conflict dates back to ancient times.[165] Those early rules were closely connected with the need of individuals to have access to natural resources essential for their survival, such as clean water. Given the conditions under which war was then conducted, as well as the means and methods used, there was limited risk of extensive environmental destruction. In pace with military technology developments after the Second World War, however, that risk grew. Yet it was not until 1976 that the protection of the environment as such was addressed in a treaty explicitly applicable in armed conflict. Older treaties made no reference to the environment and the only protection offered to was through property rights and natural resources.[166]

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[165] For a brief historical background, see Karen Hulme, *War Torn Environment: Interpreting the Legal Threshold* (Leiden, Martinus Nijhoff Publishers, 2004), pp. 3-4. See also the reference contained in the report of the International Law Commission on its sixty-third session (A/66/10), annex E, para 3.

[166] None of the following treaties and declarations contains any reference to protection of the environment as such: Declaration (IV, 3) concerning Expanding Bullets, The Hague, 29 July 1899, UKTS 32 (1907), Cd. 3751 (Eng. Fr.). Convention (II) with Respect to the Laws and Customs of War on Land and its annex: Regulations concerning the Laws and Customs of War on Land, done at The Hague on 29 July 1899, *Consolidated Treaty Series*, vol. 187, p. 429. Convention for the Exemption of Hospital Ships, in Time of War, from The Payment of all Dues and Taxes Imposed for the Benefit of the State, done at The Hague on 21 December 1904, U.S. Statutes at Large, Vol. 35, Part 2, pp. 1854-1862. Convention (III) relative to the Opening of Hostilities, done at The Hague on 18 October 1907, *Consolidated Treaty Series*, vol. 205, p. 263. Convention (IV) respecting the Laws and Customs of War on Land and its annex, done at The Hague on 18 October 1907, *Consolidated Treaty Series*, vol. 207, p. 277 . Convention (V) respecting the Rights and Duties of Neutral Powers and Persons in Case of War on Land, done at The Hague on 18 October 1907, *Consolidated Treaty Series*, vol. 205, p. 299. Convention (VI) relating to the Status of Enemy Merchant Ships at the Outbreak of Hostilities, done at The Hague on 18 October 1907, *Consolidated Treaty Series*, vol. 205, p. 305. Convention (VII) relating to the Conversion of Merchant Ships into War-Ships, done at The Hague on 18 October 1907, *Consolidated Treaty Series*, vol. 205, p. 319. Convention (VIII) relative to the Laying of Automatic Submarine Contact Mines, done at The Hague on 18 October 1907, *Consolidated Treaty Series*, vol. 205, p. 331. Convention (IX) concerning Bombardment by Naval Forces in Time of War, done at The Hague on 18 October 1907, *Consolidated Treaty Series*, vol. 205, p. 345. Convention (XI) relative to Certain Restrictions on the Right of Capture in Maritime War, done at The Hague on 18 October 1907, *Consolidated Treaty Series*, vol. 205, p. 367. Convention (XIII) concerning the Rights and Duties of Neutral Powers in Naval War, done at The Hague on 18 October 1907, *Consolidated Treaty Series*, vol. 205, p. 395. Declaration (XIV) Prohibiting the Discharge of Projectiles and Explosives from Balloons, done at The Hague on 18 October 1907, *Consolidated Treaty Series*, vol. 205, p. 403. Protocol for the Prohibition of the Use of Asphyxiating, Poisonous or Other Gases, and of Bacteriological Methods of Warfare, done at Geneva on 17 June 1925, League of Nations, *Treaty Series*, vol. 94, No. 2138, at p. 65. Convention on Maritime Neutrality, done at Havana on 20 February 1928, League of Nations, *Treaty Series*, vol. 135, No. 1932, p. 187. Treaty for the Limitation and Reduction of Naval Armaments, (Part IV, article 22, relating to submarine warfare), done at London on 22 April 1930, League of Nations, *Treaty Series*, vol. 173, p. 353. Treaty on the Protection of Artistic and Scientific Institutions and Historic Monuments (Roerich Pact), done at Washington on 15 April 1935, League of Nations, *Treaty Series*, vol. 167, No. 3874, pp. 290-294. Procès-verbal relating

121. Discussion of the protection of the environment in relation to armed conflicts is therefore of recent modern history, and scholars have written extensively on the subject.[167] ICRC has also been profoundly engaged with the topic.[168] States, however, have taken a cautious approach and attempts to codify new rules have generally been disavowed. This cautious approach should be placed in context, given that States were equally cautious in developing other areas of the law on armed conflict. Furthermore, the possible connection to issues concerning the use of nuclear weapons was of concern.

122. The number of legal instruments relating to the law on armed conflict is considerable. Most regulate the conduct of hostilities and protection of civilian population in international armed conflict. Only a few address non-international armed conflict. However, a significant development has taken place over the past two decades as a number of treaties have also embraced non-international armed conflict in their area of application.[169] The most notable development was the amendment made to the Conventional Weapons Convention to ensure that the

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to the Rules of Submarine Warfare set forth in Part IV of the Treaty of London of 22 April 1930, done at London on 6 November 1936, League of Nations, *Treaty Series*, vol. 173, No. 4025, p. 353. Agreement for the Prosecution and Punishment of the Major War Criminals of the European Axis, and Charter of the International Military Tribunal (Nuremberg Charter), done at London on 8 August 1945, United Nations, *Treaty Series*, vol. 82, No. 251, pp. 280-300. Affirmation of the Principles of International Law recognised by the Charter of the Nuremberg Tribunal, General Assembly resolution 95 (I) of 11 December 1946, *United Nations, Resolutions adopted by the General Assembly during the Second part of its first session from 23 October to 15 December 1946, Lake Success, New York, 1947*, p. 188 (Eng. Fr). Convention on the Prevention and Punishment of the Crime of Genocide, done at Paris on 9 December 1948, United Nations, *Treaty Series*, vol. 78, No. 1021, p. 278.

[167] The compilations of selected literature contained in A/66/10, annex E, appendix II, A/CN.4/674, annex, and annex II to the present report serve as examples of the extensive literature on this topic.

[168] For example, by developing Guidelines for Military Manuals and Instructions on the Protection of the Environment in Time of Armed Conflict, annexed to the Report submitted by ICRC to the General Assembly at its forty-ninth session (A/49/323), annex. Important and substantive work was done in the context of the ICRC customary law study, published in 2005, see Jean-Marie Henckaerts and Louise Doswald-Beck, *Customary International Humanitarian Law: Rules*, vol. I (Cambridge, Cambridge University Press, 2005) (hereinafter "ICRC customary law study"). See also the ICRC report of on strengthening legal protection for victims of armed conflict", document prepared for the Thirty-first International Conference of the Red Cross and Red Crescent, Geneva, October 2011 (31IC/11/5.1.1).

[169] This includes the Protocol on Prohibitions or Restrictions on the Use of Mines, Booby-Traps and Other Devices as amended on 3 May 1996, annexed to the Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons Which May Be Deemed to Be Excessively Injurious or to Have Indiscriminate Effects, done at Geneva on 3 May 1996, United Nations, *Treaty Series*, vol. 2048, No. 22495, p. 93 (hereinafter "Protocol II on the use of mines, booby-traps and other devices"); Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of Anti-Personnel Mines and on their Destruction, done at Oslo on 18 September 1997, United Nations, *Treaty Series*, vol. 2056, No. 35597, p. 211; Second Protocol to the Hague Convention of 1954 for the Protection of Cultural Property in the Event of Armed Conflict (1999 Second Protocol), done at The Hague on 26 March 1999, United Nations, *Treaty Series*, vol. 2253, No. 3511, p. 172; Optional Protocol to the Convention on the Rights of the Child on the involvement of children in armed conflict, done at New York on 25 May 2000, United Nations, *Treaty Series*, vol. 2173, No. 27531, p. 222. For a study of the development see Laura Perna, *The Formation of the Treaty Law of Non-International Armed Conflicts* (Leiden, Martinus Nijhoff, Publishers, 2006).

Convention would also be applicable in situations of non-international armed conflict.[170]

123. Nevertheless, many legal and political challenges arise when attempts are made to regulate the conduct of hostilities in non-international armed conflict. As such, it is unsurprising that some of the developments in this area of law take place outside the sphere of multilateral treaty negotiations, such as in courts and through national legislation. International and regional courts also tend to view the matter through the lens of human rights.[171]

1. Fundamental treaty provisions: ENMOD Convention, Additional Protocol I to the 1949 Geneva Conventions and the Rome Statute

124. The most well-known provisions that are germane to the protection of the environment are found in the ENMOD Convention, in Additional Protocol I to the 1949 Geneva Conventions and in the Rome Statute.[172] These three treaties have been widely ratified. As at 12 February 2015, there were 174 States parties to Additional Protocol I, 76 States parties to the ENMOD Convention and 123 States parties to the Rome Statute.[173] As a starting point, it is worth recalling the key articles in these instruments.

125. The most relevant article in the ENMOD Convention is article I, paragraph 1 of which reads:

> Each State Party to this Convention undertakes not to engage in military or any other hostile use of environmental modification techniques having

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[170] Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons Which May Be Deemed to Be Excessively Injurious or to Have Indiscriminate Effects, done at Geneva on 10 October 1980, United Nations, *Treaty Series*, vol. 1342, No. 22495, p. 137 (hereinafter "Conventional Weapons Convention") and Amendment to the Conventional Weapons Convention, done at Geneva on 21 December 2001, United Nations, *Treaty Series*, vol. 2260, No. 22495, p. 82.

[171] See, sect. VII of the present report, on legal cases and judgements.

[172] Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques, done at New York on 10 December 1976 (United Nations, *Treaty Series*, vol. 1108, No. 17119); Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of International Armed Conflicts (Additional Protocol I), 1977 (United Nations, *Treaty Series*, vol. 1125, No. 17512); and Rome Statute of the International Criminal Court, done at Rome on 17 July 1998 (United Nations, *Treaty Series*, vol. 2187, No. 38544).

[173] In addition, 16 States Parties are signatories to the ENMOD Convention, 3 are signatories to Additional Protocol I and 31 to the Rome Statute. Although signatories are not bound by the treaty, it is worth recalling that a State that has signed a treaty is obliged to refrain from acts which would defeat the object and purpose of a treaty, "(...) until it shall have made its intention clear not to become a party to the treaty", see article 18(a) of the Vienna Convention on the Law of Treaties, done at Vienna on 23 May 1969 (United Nations, *Treaty Series*, vol. 1155, No. 18232). The United States has done so with respect to the Rome Statute. The United States signed the Rome Statute on 31 December 2000. On 6 May 2002, the Government of the United States informed the depositary (the Secretary-General of the United Nations) that it did not intend to become a party to the treaty and that, "accordingly, the United States has no legal obligations arising from its signature on December 31, 2000". Israel (on 28 August 2002) and the Sudan (on 26 August 2008) have also informed the depositary of their intention not to become parties to the treaty and that, as a consequence, they have no legal obligations arising from their signatures. The communications are available from https://treaties.un.org/Pages/ViewDetails.aspx?src=TREATY&mtdsg_no=XVIII-10&chapter=18&lang=en.

widespread, long-lasting or severe effects as the means of destruction, damage or injury to any other State Party.

126. An environmental modification technique is considered a "technique for changing — through the deliberate manipulation of natural processes — the dynamics, composition or structure of the Earth, including its biota, lithosphere, hydrosphere and atmosphere, or of outer space".[174] This means that the Convention covers a very narrowly defined environmental modification technique. Furthermore, the use of such a technique needs to be deliberate. In essence, as one commentator put it, "the actual scope of ENMOD is fairly narrow".[175] States have also shown considerable scepticism towards the review of the Convention. Two review conferences have been held, in 1984 and 1992, respectively. Attempts to hold a third conference have not been successful.[176]

127. In Additional Protocol I, the most pertinent articles are articles 35 and 55, which read:

Article 35. Basic rules

1. In any armed conflict, the right of the Parties to the conflict to choose methods or means of warfare is not unlimited.

2. It is prohibited to employ weapons, projectiles and material and methods of warfare of a nature to cause superfluous injury or unnecessary suffering.

3. It is prohibited to employ methods or means of warfare which are intended, or may be expected, to cause widespread, long-term and severe damage to the natural environment.

Article 55. Protection of the natural environment

1. Care shall be taken in warfare to protect the natural environment against widespread, long-term and severe damage. This protection includes a prohibition of the use of methods or means of warfare which are intended or may be expected to cause such damage to the natural environment and thereby to prejudice the health or survival of the population.

2. Attacks against the natural environment by way of reprisals are prohibited.

128. In the Protocol, article 35 appears in part III, section I, which deals with methods and means of warfare. Article 55 appears under part IV (Civilian population), section I, which deals with general protection against effects of hostilities, and chapter III thereof, concerning civilian objects. The placement of the articles is of relevance. Article 35, paragraph 3, is an absolute prohibition, as is the case with the other prohibitive rules in that article. Article 55 is an obligation of care that stipulates that the absolute prohibition against "the use of methods or

[174] ENMOD Convention, art. II.

[175] Michael N. Schmitt, "Humanitarian Law and the Environment" *Denver Journal of International Law and Policy*, vol. 28, No. 3 (2000), p. 265.

[176] In 2013, the Secretary-General invited the States parties to express their views on the convening of a third review conference but the number of positive replies received did not meet the minimum number required for affirmative responses. ODA/63-2013/ENMOD, available from http://www.unog.ch/enmod.

means of warfare which are intended or may be expected to cause such damage to the natural environment and thereby to prejudice the health or survival of the population" is included in that obligation.

129. A few States have made declarations with regard to articles 35 and 55. France and the United Kingdom have expressed similar understandings on how the risk of environmental damage is to be assessed, namely, objectively and on the basis of the information available at the time.[177]

130. Several States have made declarations with regard to the applicability of Additional Protocol I only to conventional weapons or to its non-applicability to the use of nuclear weapons, namely, Belgium,[178] Canada,[179] France,[180] Germany,[181] Italy,[182] Spain,[183] the Netherlands[184] and the United Kingdom.[185] Ireland[186] has

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[177] France, Interpretative declaration made at the time of ratification, 11 April 2001: "Le gouvernement de la République française considère que le risque de dommage a l'environnement naturel résultant de l'utilisation des méthodes ou moyens de guerre, tel qu'il découle des dispositions des paragraphes 2 et 3 de l'article 35 et de celles de l'article 55, doit être analysé objectivement sur la base de l'information disponible au moment où il est apprécié". The United Kingdom of Great Britain and Northern Ireland (2.7.2002), re. article 35, para. 3, and art. 55: "The United Kingdom understands both of these provisions to cover the employment of methods and means of warfare and that the risk of environmental damage falling within the scope of these provisions arising from such methods and means of warfare is to be assessed objectively on the basis of the information available at the time". Declarations and understandings are available at the ICRC web page: https://www.icrc.org/applic/ihl/ihl.nsf/States.xsp?xp_viewStates=XPages_NORMStatesParties&xp_treatySelected=470.

[178] Belgium, Interpretative declaration made at the time of ratification, 20 May 1986: "The Belgian Government, in view of the *travaux préparatoires* for the international instrument herewith ratified, wishes to emphasize that the Protocol was established to broaden the protection conferred by humanitarian law solely when conventional weapons are used in armed conflicts, without prejudice to the provisions of international law relating to the use of other types of weapons".

[179] Canada, Statement of understanding upon ratification, 20 November 1990: "It is the understanding of the Government of Canada that the rules introduced by Protocol I were intended to apply exclusively to conventional weapons. In particular, the rules so introduced do not have any effect on and do not regulate or prohibit the use of nuclear weapons".

[180] France, *supra* note 177: "Se référant au projet de protocole rédigé par le comité international de la Croix-Rouge qui a constitué la base des travaux de la conférence diplomatique de 1974-1977, le gouvernement de la République française continue de considérer que les dispositions du protocole concernent exclusivement les armes classiques, et qu'elles ne sauraient ni réglementer ni interdire le recours à l'arme nucléaire, ni porter préjudice aux autres règles du droit international applicables à d'autres activités, nécessaires à l'exercice par la France de son droit naturel de légitime défense".

[181] Federal Republic of Germany, Declaration made at the time of ratification, 14 February 1991: "It is the understanding of the Federal Republic of Germany that the rules relating to the use of weapons introduced by Additional Protocol I were intended to apply exclusively to conventional weapons without prejudice to any other rules of international law applicable to other types of weapons".

[182] Italy, Declarations made at the time of ratification, 27 February 1986: "It is the understanding of the Government of Italy that the rules relating to the use of weapons introduced by Additional Protocol I were intended to apply exclusively to conventional weapons. They do not prejudice any other rule of international law applicable to other types of weapons".

[183] Spain, Interpretative declaration made at the time of ratification, 21 April 1989: "It is the understanding [of the Government of Spain] that this Protocol, within its specific scope applies exclusively to conventional weapons, and without prejudice to the rules of International Law governing other types of weapons".

made a reference to the advisory opinion of the International Court of Justice on the legality of the threat or use of nuclear weapons, and the Holy See has expressed concern over the inadequacy of the Additional Protocol given the ruinous devastation that would ensue from nuclear war.[187] Some of those declarations and reservations were made after the Court had handed down its advisory opinion. During the Court's proceedings, a considerable number of States submitted written statements and comments, in some of which the legality of the threat or use of nuclear weapons was also assessed by reference to rules that afford protection to the environment.[188] It should be noted that many statements and comments also provided an analysis of other pertinent international conventions.

131. The third treaty that contains a directly relevant provision on the protection of the environment during armed conflicts is the Rome Statute. Its article 8, paragraph 2 (b)(iv), includes among serious violations of the laws and customs applicable in international armed conflict within the established framework of international law, the act of:

> (iv) Intentionally launching an attack in the knowledge that such attack will cause incidental loss of life or injury to civilians or damage to civilian objects or widespread, long-term and severe damage to the natural environment which

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[184] The Netherlands, Declaration made at the time of the ratification (for the Kingdom's territory within Europe and the Netherlands Antilles and Aruba), 26 June 1987: "It is the understanding of the Government of the Kingdom of the Netherlands that the rules introduced by Protocol I relating to the use of weapons were intended to apply and consequently do apply solely to conventional weapons, without prejudice to any other rules of international law applicable to other types of weapons".

[185] United Kingdom, Reservation made at the time of ratification, 28 January 1998: "It continues to be the understanding of the United Kingdom that the rules introduced by the Protocol apply exclusively to conventional weapons without prejudice to any other rules of international law applicable to other types of weapons. In particular, the rules so introduced do not have any effect on and do not regulate or prohibit the use of nuclear weapons".

[186] Ireland, Declarations and Reservation in relation to Additional Protocol I, 19 May 1999: "In view of the potentially destructive effect of nuclear weapons, Ireland declares that nuclear weapons, even if not directly governed by Additional Protocol I, remain subject to existing rules of international law as confirmed in 1996 by the International Court of Justice in its advisory opinion on the Legality of the Threat or Use of Nuclear Weapons". With respect to article 55, Ireland declared that: "In ensuring that care shall be taken in warfare to protect the natural environment against widespread, long-term and severe damage and taking account of the prohibition of the use of methods or means of warfare which are intended or may be expected to cause such damage to the natural environment thereby prejudicing the health or survival of the population, Ireland declares that nuclear weapons, even if not directly governed by Additional Protocol I, remain subject to existing rules of international law as confirmed in 1996 by the International Court of Justice in its advisory opinion on the *Legality of the Threat or Use of Nuclear Weapons*. Ireland will interpret and apply this Article in a way which leads to the best possible protection for the civilian population".

[187] Holy See, declaration at the time of ratification, 21 November 1985.

[188] States that delved into an analysis of rules furnishing protection to the environment, but nevertheless found that the threat or use of force would not be illegal in any circumstance include France, the United Kingdom and the United States. Views to the contrary were taken e.g. by Egypt, the Islamic Republic of Iran, the Marshall Islands, Nauru and the Solomon Islands. The written statements and comments are available at http://www.icj-cij.org/docket/index.php?p1=3&p2=4&k=e1&case=95&code=unan&p3=1.

would be clearly excessive in relation to the concrete and direct overall military advantage anticipated.[189]

132. Only one State, France, made a declaration that directly refers to the protection of the environment in relation to armed conflicts upon ratification of the Rome Statute.[190] The connection between the protection of the environment and the use of nuclear weapons is made clear in the declaration. New Zealand,[191] Egypt[192] and Sweden[193] also raised the applicability of the Rome Statute to the use of nuclear weapons, while the United Kingdom explicitly referred to its statement made upon ratification of Additional Protocol I.[194]

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[189] The caveat that must be made with this provision (and several other provisions in the Rome Statute) is that for the purposes of securing accountability for war crimes (i.e., serious violations), it imports a standard of military necessity much higher than that traditionally understood IHL. Furthermore, the references "clearly excessive" and "overall military advantage" are not the standards within international humanitarian law. These were compromises at the Rome Conference so as to ensure that ICC judges do not apply the standard too strictly and put themselves in the military commanders shoes ex-post.

[190] France declared that "the risk of damage to the natural environment as a result of the use of methods and means of warfare, as envisaged in article 8, paragraph 2 (b) (iv), must be weighed objectively on the basis of the information available at the time of its assessment". It had also stated that: "The provisions of article 8 of the Statute, in particular paragraph 2 (b) thereof, relate solely to conventional weapons and can neither regulate nor prohibit the possible use of nuclear weapons nor impair the other rules of international law applicable to other weapons necessary to the exercise by France of its inherent right of self-defence, unless nuclear weapons or the other weapons referred to herein become subject in the future to a comprehensive ban and are specified in an annex to the Statute by means of an amendment adopted in accordance with the provisions of articles 121 and 123". France, Interpretative declaration upon ratification, 9 June 2000, United Nations, *Treaty Series*, vol. 2187, pp. 614-616.

[191] New Zealand stated in a declaration that "it would be inconsistent with principles of international humanitarian law to purport to limit the scope of article 8, in particular article 8(2) (b), to events that involve conventional weapons only" (para.1). New Zealand finds support for this view in the advisory opinion of the International Court of Justice on the Legality of the Threat or Use of Nuclear Weapons (1996) (paras. 2-3). New Zealand, Interpretative declaration upon ratification, 7 September 2000, United Nations, *Treaty Series*, vol. 2187, pp. 622-623.

[192] Upon signature, Egypt declared that its understanding of article 8 shall be as follows "[t]he provisions of the Statute with regard to the war crimes referred to in article 8 in general and article 8, paragraph 2 (b) in particular shall apply irrespective of the means by which they were perpetrated or the type of weapon used, including nuclear weapons, which are indiscriminate in nature and cause unnecessary damage, in contravention of international humanitarian law". Egypt also stated that "Article 8, paragraph 2 (b) (xvii) and (xviii) of the Statute shall be applicable to all types of emissions which are indiscriminate in their effects and the weapons used to deliver them, including emissions resulting from the use of nuclear weapons". Egypt, Declaration upon signature, 26 December 2000, available at http://treaties.un.org/Pages/ViewDetails.aspx?src=TREATY&mtdsg_no=XVIII-10&chapter=18&lang=en#EndDec.

[193] Sweden made a general statement with regard to the war crimes specified in article 8 of the Statute which relate to the methods of warfare, by recalling the advisory opinion of the International Court of Justice on the *Legality of the Threat or Use of Nuclear Weapons*, and "In particular paragraphs 85 to 87 thereof, in which the Court finds that there can be no doubt as to the applicability of humanitarian law to nuclear weapons". Sweden, Declaration made upon ratification, 28 June 2001, United Nations, *Treaty Series*, vol. 2187, p. 631.

[194] The United Kingdom declared that "[t]he United Kingdom understands the term 'the established framework of international law', used in article 8 (2)(b) and (e), to include customary international law as established by State practice and *opinio juris*. In that context the United Kingdom confirms and draws to the attention of the Court its views as expressed, inter alia, in its statements made on ratification of relevant instruments of international law, including the

(a) Belligerent reprisals

133. Although considerably restricted, a belligerent reprisal is still and under certain circumstances a lawful tool during armed conflict. It may be used as a retaliatory action by one of the parties to the conflict against another. There is no legal definition of the concept but its meaning is reasonably clear.

134. The ICRC customary law study describes a belligerent reprisal as "an action that would otherwise be unlawful but that in exceptional cases is considered lawful under international law when used as an enforcement measure in reaction to unlawful acts of an adversary".[195] Others have described the concept in different words.[196]

Protocol Additional to the Geneva Conventions of 12th August 1949, and relating to the Protection of Victims of International Armed Conflicts (Protocol I) of 8th June 1977". United Kingdom, Declaration upon ratification, 4 October 2001, United Nations, *Treaty Series*, vol. 2187, p. 633.

[195] ICRC customary law study, *supra* note 5, at p. 513.

[196] See for example Greenwood: "Belligerent reprisals consist of acts which, if they could not be justified as reprisals, would constitute violations of the law which regulates the conduct of war or armed conflict (...) The better view is (...) that belligerent reprisals may lawfully be taken only in response to a prior violation of the law of armed conflict and not in retaliation for an unlawful resort to force". Christopher Greenwood, "The Twilight of the Law of Belligerent Reprisals" *Netherlands Yearbook of International Law*, vol. 20 (1989), p. 35.

"Because reprisals are a reaction to a prior serious violation of international humanitarian law, 'anticipatory' reprisals or 'counter-reprisals' are not permissible, nor can belligerent reprisals be a reaction to a violation of another type of law. In addition, as reprisals are aimed at inducing the adversary to comply with the law, they may not be carried out for the purpose of revenge or punishment". ICRC customary law study, *supra* note 5, at p. 515.

"Reprisals are stern measures taken by one State against another for the purpose of putting an end to breaches of the law of which it is the victim or to obtain reparation for them. Although such measures are in principle against the law, they are considered lawful by those who take them in the particular circumstances in which they are taken, i.e., in response to a breach committed by the adversary.

In this particular context we do not intend to deal with reprisals in general, but only in the context of armed conflict, i.e., in "*jus in bello*." In the law of armed conflict, reprisals exercised by the belligerents can be defined as compulsory measures, derogating from the ordinary rules of such law, taken by a belligerent following unlawful acts to its detriment committed by another belligerent and which intend to compel the latter, by injuring it, to observe the law". Bruno Zimmermann, "Part V: Execution of the Conventions and of this Protocol, Section II — Repression of Breaches of the Conventions and of this Protocol", in Yvez Sandoz and others, *Commentary on the Additional Protocols of 8 June 1977 to the Geneva Conventions of 12 August of 1949* (Geneva: Martinus Nijhoff Publishers, 1987), at p. 982, paras. 3426-3427 (footnotes omitted).

"Unlawful reprisals do not render lawful the recourse to counter-reprisals by the adversary consisting of measures which are, even as a reprisal, prohibited.

The prohibition of reprisals cannot be suspended because of material violation of treaties of humanitarian law. This might be derived directly from the definition of reprisals, the "raison d'être" of the specific above-mentioned prohibitions. Any doubt which might arise from Article 60 of the Vienna Convention of 29 May 1969 on the Law of Treaties, which provides for termination or suspension after a material breach of a treaty, is removed by the same article. Indeed this article states that its provisions are subject to specific treaty provisions applicable in the event of a breach (paragraph 4), in particular those relating to the protection of the human person in treaties of a humanitarian character, including provisions prohibiting reprisals (paragraph 5)". Ibid., p. 987, at paras. 3458-9.

"At most, such measures [reprisals] could now be envisaged in the choice of weapons and in

135. The International Law Commission addressed the term "reprisals" in its work on State responsibility when it had to determine the boundary between countermeasures and reprisals. The Commission noted that the term "reprisals" in recent times had been limited to action taken in time of international armed conflict:

> More recently, the term 'reprisals' has been limited to action taken in time of international armed conflict; i.e. it has been taken as equivalent to belligerent reprisals. The term 'countermeasures' covers that part of the subject of reprisals not associated with armed conflict, and in accordance with modern practice and judicial decisions the term is used in that sense in this chapter.[197]

136. Although reprisals are not strictly prohibited during armed conflict, their use is severely restricted under international law. First, reprisals against protected persons are absolutely prohibited under all circumstances. The same is true for collective punishment of protected civilians. Reprisals are also forbidden against protected objects.[198] Additional Protocol I and the Conventional Weapons Convention list prohibited targets by including historical monuments, works of art or places of worship, objects indispensable to the survival of the civilian population, attacks against the natural environment by way of reprisals, and works or installations containing dangerous forces (i.e. dams, dykes and nuclear electrical generating stations), even where they are military objectives.[199] There is still no treaty-based (conventional) prohibition or restriction of reprisals relating to the means and methods of warfare as such.[200]

137. Article 55, paragraph 2, of Additional Protocol I clearly stipulates that attacks against the natural environment by way of reprisals are prohibited.[201] As noted above, article 55 is placed in section I of part IV (Civilian population), which deals with general protection against effects of hostilities and, more specifically, in chapter III, entitled "Civilian objects". This implies a perception of the environment as a civilian object.[202]

(b) Scope of application

138. The provisions of Additional Protocol I are applicable in international armed conflict, as identified in article 2 common to the 1949 Geneva Conventions. Such

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methods of combat used against military objectives". Claude Pilloud and Jean Pictet, "Protection of the Civilian Population", in ibid., p. 627, at para. 1985.
In the *List case (The Hostages Trial)* in the late 1947/48, the US Military Tribunal at Nuremberg held that: "A reprisal is a response to an enemy's violation of the laws of war which would otherwise be a violation on one's own side". US Military Tribunal Nuremberg, *The Hostages* Trial, Judgment of 19 February 1948, in *Trials of War Criminals Before the Nuremberg Military Tribunals Under Control Council Law No. 10, Volume XI/2* (Washington: United States Government Printing Office, 1950), p. 1248.

[197] *Yearbook of the International Law Commission, 2001*, vol. II (part Two), p. 128, at para. 3.

[198] Frits Kalshoven, *Belligerent reprisals*, 2nd edition, (Leiden: Martinus Nijhoff Publishers, 2005), pp. 321-322. Frits Kalshoven, *Reflections on the Law of War: Collected Essays* (Leiden; Boston: Martinus Nijhoff Publishers, 2007). At p. 767 he writes the following: "The Geneva Conventions of 1949 categorically prohibit reprisals against protected persons and objects in situations of international armed conflict" (originally published in Frits Kalshoven, "Belligerent Reprisals Revisited" NYBIL vol. 21 (1990), p. 43.

[199] Additional Protocol I, articles 54(4), 55(2), and 56(4).

[200] Kalshoven, *supra* note198, at p. 323.

[201] Additional Protocol I, article 55(2).

[202] ICRC customary law study, *supra* note 5, at p. 525.

conflicts also include armed conflicts in which peoples are fighting against colonial domination and alien occupation and against racist regimes in the exercise of their right of self-determination.[203] This raises two questions: whether there is any corresponding customary rule with the same content that would also be applicable to non-parties to the Protocol, and whether the content of such corresponding customary rules is applicable also in non-international armed conflict.

139. The ENMOD Convention does not expressly address whether it is applicable in international and/or non-international armed conflict. The Convention obliges States "not to engage in military or any other hostile use of environmental modification techniques having widespread, long-lasting or severe effects as the means of destruction, damage or injury to any other State Party". This is an inter-State obligation and clearly covers a situation in which two States are engaged in an armed conflict. It says nothing about a parallel obligation when one State is engaged in a non-international armed conflict on its own territory or whether it is applicable when a coalition of States is operating on the territory of another State that has consented to their involvement in the conflict.

140. The Rome Statute covers both international and non-international armed conflict but makes a clear distinction between crimes committed in international armed conflict and crimes committed in non-international armed conflict.[204] Paragraph 2 (b)(iv) of article 8, cited above, is applicable in international armed conflict. There is no corresponding provision applicable in non-international armed conflict.[205] That the International Criminal Court does not have jurisdiction over "widespread, long-term and severe damage to the natural environment" in non-international armed conflict does not necessarily imply that it would be lawful to cause such damage. The Statute deals only with crimes under the jurisdiction of the Court. Hence, a conclusion *a contrario* cannot automatically be drawn.

2. Other treaties referring to the protection of the environment in relation to armed conflicts

141. Apart from the above-mentioned treaties, the protection of the environment is also addressed in other treaties on the law of armed conflict. Of relevance is the fourth preambular paragraph of the Conventional Weapons Convention.[206] The paragraph repeats the wording of article 35, paragraph 3, of Additional Protocol I in that it is prohibited to employ methods or means of warfare which are intended, or may be expected, to cause widespread, long-term and severe damage to the natural environment. Protocol III to the Convention, on the use of incendiary weapons, states that "it is prohibited to make forests or other kinds of plant cover the object of attack by incendiary weapons except when such natural elements are used to cover, conceal or camouflage combatants or other military objectives, or are themselves

[203] Additional Protocol I, art. 1, paras. 3 and 4.

[204] Rome Statute, art. 8.

[205] Ibid., para. (2) (c).

[206] The fourth preambular paragraph reads: "Also recalling that it is prohibited to employ methods or means of warfare which are intended, or may be expected, to cause widespread, long-term and severe damage to the natural environment".

military objectives".[207] No State has made a statement that specifically mentions the environment in the context of the use of incendiary weapons.[208]

142. The Technical Annex to Protocol II to the Conventional Weapons Convention, on the use of mines, booby traps and other devices, requires that the marking of mines "should be visible, legible, durable and resistant to environmental effects, as far as possible", thus protecting the weapon from the environment rather than the other way around.

143. A similar requirement is found in the Technical Annex to the Protocol on Explosive Remnants of War (Protocol V to the Conventional Weapons Convention).[209] In addition, States are required to apply appropriate explosive ordnance logging, tracking and testing procedures, which should include information on, among other things, "where the explosive ordnance has been, under what conditions it has been stored, and to what environmental factors it has been exposed".[210]

144. It is noteworthy that treaties that have the character of disarmament treaties reveal an increasing awareness of the need to take environmental aspects into account in the handling and destruction processes. The Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction (1972) obliges each State party to observe all necessary safety precautions to protect populations and the environment in implementing their undertakings and, inter alia, to destroy, or to divert to peaceful purposes, all agents, toxins, weapons, equipment and means of delivery specified in article I of the Convention.[211] The Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on their Destruction (1993) contains a number of environmental safeguard requirements throughout the entire destruction process.[212] The Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of Anti-Personnel Mines and on their Destruction (1997) allows a State party that

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[207] Protocol on Prohibitions or Restrictions on the Use of Incendiary Weapons, annexed to the Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons Which May Be Deemed to Be Excessively Injurious or to Have Indiscriminate Effects, art. 2, para. 4 (United Nations, *Treaty Series*, vol. 1342, No. 22495). Hereinafter "Protocol III on incendiary weapons".

[208] It is noteworthy that the Protocol was preceded by a resolution adopted in 1974 on napalm and other incendiary weapons and all aspects of their possible use, in which the General Assembly: "Condemn[ed] the use of napalm and other incendiary weapons in armed conflicts in circumstances where it may affect human beings or may cause damage to the environment and/or natural resources; General Assembly resolution 3255 B (XXIX) of 9 December 1974, para. 1.

[209] Technical Annex to the Protocol on Explosive Remnants of War to the Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons Which May Be Deemed to Be Excessively Injurious or to Have Indiscriminate Effects, done at Geneva on 28 November 2003 (United Nations, *Treaty Series*, vol. 2399, No. 22495), sect. 2, para. (i).

[210] Sect. 3, para. (b) (v).

[211] Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction, done at London, Moscow and Washington on 10 April 1972 (United Nations, *Treaty Series*, vol. 1015, No. 14860), art. II.

[212] Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on Their Destruction, done at Geneva on 3 September 1992 (United Nations, *Treaty Series*, vol. 1974, No. 33757). See arts. IV, para. 10, V and VII, para. 3, and Annex on implementation and verification, specifically parts IV (A), para. 32 VI, para. 7, and X, para. 50.

considers that it will be unable to destroy or ensure the destruction of all anti-personnel mines that it has undertaken to destroy or ensure the destruction of to request an extension of the deadline. Such a request should contain information on "the humanitarian, social, economic, and environmental implications of the extension".[213] In addition and as a matter of transparency, each State party should report to the Secretary-General of the United Nations the environmental standards to be observed when the mines are destroyed.[214] The Convention on Cluster Munitions (2008)[215] likewise imposes the obligation on States to ensure that destruction methods comply with applicable international standards for protecting public health and the environment (art. 3, para. 2) and that signs and other hazardous area boundary markers should, as far as possible, be visible, legible, durable and resistant to environmental effects (art. 4, para. 2 (c)). Any request for extension of the time frame for destruction should contain an evaluation of the environmental implications of the proposed extension.[216] In addition and as a matter of transparency, States are obliged to report the environmental standards used in their programme for destruction.[217]

145. In summary, it can be noted that there are limited treaty provisions under the law of armed conflict that are of direct relevance to the protection of the environment during armed conflicts. There is a notably long list of treaties and resolutions that do not contain any reference to the protection of the environment.[218] At the same time, it should be noted that provisions in early treaties

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[213] Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of Anti-Personnel Mines and on their Destruction, 18 September 1997, article 5(4) [hereinafter: the Ottawa Convention].

[214] Ibid., art.7, para 1 (f).

[215] Convention on Cluster Munitions, done at Dublin on 30 May 2008, United Nations, *Treaty Series*, vol. 2688, No. 47713, p. 39.

[216] Ibid., art. 4, para. 6 (h).

[217] Ibid., art. 7, para. 1 (e) and (f).

[218] Geneva Convention I: Convention (I) for the Amelioration of the Condition of the Wounded and Sick in Armed Forces in the Field, done at Geneva on 12 August 1949, United Nations, *Treaty Series*, vol. 75, p. 31; Geneva Convention II: Convention (II) for the Amelioration of the Condition of Wounded, Sick and Shipwrecked Members of Armed Forces at Sea, done at Geneva on 12 August 1949, United Nations, *Treaty Series*, vol. 75, p. 85; Geneva Convention III: Convention (III) Relative to the Treatment of Prisoners of War, done at Geneva on 12 August 1949, United Nations, *Treaty Series*, vol. 75, p. 135; Geneva Convention IV: Convention (IV) Relative to the Protection of Civilian Persons in Time of War, done at Geneva on 12 August 1949, United Nations, *Treaty Series*, vol. 75, p. 287; Resolutions of the Diplomatic Conference of Geneva, 12 August 1949, Final Act of the Diplomatic Conference of Geneva, 12 August 1949, Additional Protocol II to the Geneva Conventions, p. 609; Cultural Property Convention: Hague Convention for the Protection of Cultural Property in the Event of Armed Conflict with Regulations for the Execution of the Convention, done at The Hague on 14 May 1954, United Nations, *Treaty Series*, vol. 249, p. 240; Human Rights in Armed Conflicts, Resolution XXIII adopted at the International Conference on Human Rights of 12 May 1968, document A/CONF.32/41; Convention on the Non-Applicability of Statutory Limitations to War Crimes and Crimes Against Humanity, done at New York on 26 November 1968, United Nations, *Treaty Series*, vol. 754, No. 10823, p. 73; Resolution on the Distinction between Military Objectives and Non-Military Objectives in General and Particularly the Problems Associated with Weapons of Mass Destruction adopted by the Institute of International Law at its Session of Edinburgh, 9 September 1969; European Convention on the Non-Applicability of Statutory Limitations to Crimes against Humanity and War Crimes, done at Strasbourg on 25 January 1974, Council of Europe, *Treaty Series*, No. 082; Annex I to Protocol Additional I to the Geneva Conventions of 1949: Regulations concerning identification, as amended on 30 November 1993; Convention for

may very well contribute to the protection of the environment, while their main objective may have been to protect civilian property.

B. Principles

146. The most fundamental principles of the law of armed conflict are the principles of distinction, proportionality and precautions in attack, as well as the rules on military necessity.[219] All of them are reflected in specific provisions in treaties on the law of armed conflict. The Martens clause, or, in other words, the principle of humanity, will be addressed in the forthcoming report because this principle is of overarching character and therefore particularly relevant in analysing also the pre-conflict and post-conflict phases.

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the Elimination of Mercenarism in Africa adopted pursuant to OAU Council of Ministers, resolution 817 (XXIX) of 3 July 1977, document CM/817 (XXIX) Annex II Rev.3, 1977; Resolution on Small-Calibre Weapon Systems adopted at the United Nations Conference on Prohibitions or Restrictions on the Use of Certain Conventional Weapons of 28 September 1979, document A/CONF.95/15; Protocol (I) on Non-Detectable Fragments annexed to the Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons Which May Be Deemed to Be Excessively Injurious or to Have Indiscriminate Effects, done at Geneva on 10 October 1980, United Nations, *Treaty Series*, vol. 1342, p. 168; Final Act of the United Nations Conference on Prohibitions or Restrictions on the Use of Certain Conventional Weapons Which May Be Deemed to Be Excessively Injurious or to Have Indiscriminate Effects, 10 October 1980, document A/CONF.95/15; Conventional Weapons Convention and its Amendment of 21 December 2001; Protocol II on the use of mines, booby-traps and other devices; Protocol III on incendiary weapons; Additional Protocol to the Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons Which May Be Deemed to Be Excessively Injurious or to Have Indiscriminate Effects (Protocol IV), done at Vienna on 13 October 1995, United Nations, *Treaty Series*, vol. 2024, No. 22495, p. 163 [hereinafter Protocol on Blinding Laser Weapons]; International Convention against the Recruitment, Use, Financing and Training of Mercenaries, done at New York on 4 December 1989, United Nations, *Treaty Series*, vol. 2163, p. 75; Statute of the International Tribunal for the Prosecution of Persons Responsible for Serious Violations of International Humanitarian Law Committed in the Territory of the Former Yugoslavia since 1991, adopted pursuant to Security Council resolution 827 of 25 May 1993; Statute of the International Criminal Tribunal for the Prosecution of Persons Responsible for Genocide and Other Serious Violations of International Humanitarian Law Committed in the Territory of Rwanda and Rwandan citizens responsible for genocide and other such violations committed in the territory of neighbouring States, between 1 January 1994 and 31 December 1994 adopted pursuant to Security Council resolution 955 of 8 November 1994; Second Protocol to the Hague Convention of 1954 for the Protection of Cultural Property in the Event of Armed Conflict, done at The Hague on 26 March 1999, United Nations, *Treaty Series*, vol. 2253, No. 3511, p. 172; Optional Protocol to the Convention on the Rights of the Child on the involvement of children in armed conflict; Protocol Additional to the Geneva Conventions of 12 August 1949, and Relating to the Adoption of an Additional Distinctive Emblem (Protocol III), done at Geneva on 8 December 2005, United Nations, *Treaty Series*, vol. 2404 p. 261; Agreement between the United Nations and the Government of Sierra Leone on the Establishment of a Special Court for Sierra Leone, done at Freetown on 16 January 2002, United Nations, *Treaty Series*, vol. 2178, p. 138; The Arms Trade Treaty adopted pursuant to General Assembly resolution 67/234 B of 2 April 2013.

[219] The prohibition to employ weapons, projectiles and material and methods of warfare of a nature to cause superfluous injury or unnecessary suffering is not addressed in the present report since this rule aims at protecting the combatants from the certain detrimental consequences of the choice of means or methods of warfare. It is not related to the protection of civilians or civilian objects.

1. Principle of distinction

147. The principle of distinction is a fundamental rule of the law of armed conflict. It exists to ensure respect for and protection of the civilian population and civilian objects. At the same time, it identifies what may be lawfully targeted during an armed conflict. Accordingly, it is both a prohibitive and a permissive rule.

148. The principle of distinction is codified in article 48 of Additional Protocol I as a basic rule and obliges parties to the conflict to direct their operations only against military objectives.[220] The principle is supported by article 51 of Additional Protocol I, which provides additional protection for the civilian population,[221] and by article 52, which makes it clear that civilian objects may not be the object of attack or reprisals. The principle is considered to be a rule of customary law both in international and non-international armed conflict, the repeated violations of it notwithstanding.[222] It covers both means and methods of warfare and is confirmed by international case law.[223] It is repeated in military manuals and handbooks.[224]

149. Article 52, paragraph 1, of Additional Protocol I specifies that civilian objects shall not be the object of attack or of reprisals and that civilian objects are "all objects which are not military objectives as defined in paragraph 2".[225] The article provides that, "in so far as objects are concerned, military objectives are limited to those objects which by their nature, location, purpose or use make an effective contribution to military action and whose total or partial destruction, capture or neutralization, in the circumstances ruling at the time, offer a definite military advantage". The formulation in paragraph 2 of article 52 indicates that a civilian object is a "thing", as opposed to a more abstract configuration. At the same time, private land, crops and natural resources may very well be considered civilian objects. It is sometimes difficult to distinguish between the protection of the

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[220] Article 48 (Basic rule) reads: "In order to ensure respect for and protection of the civilian population and civilian objects, the Parties to the conflict shall at all times distinguish between the civilian population and combatants and between civilian objects and military objectives and accordingly shall direct their operations only against military objectives".

The principle of distinction had a long legal history before it was codified in Additional Protocol I, but this historical background is not addressed in this report. The term "military objective" had not been defined before the adoption of the Additional Protocol I.

[221] Article 51 makes it clear that the civilian population or individual civilians shall not be the object of attack and that indiscriminate attacks are prohibited (see paras. 2 and 4).

[222] The ICRC customary law study correctly remarks that violations of the principle are often condemned by the Security Council, *supra* note 5, at p. 7.

[223] See, for example, *Legality of the Threat or Use of Nuclear Weapons*, p. 257 and Eritrea-Ethiopia Claims Commission, Partial Award, Western Front, Aerial Bombardment and Related Claims, Eritrea's Claims, 1,3,5, 9-13, 14, 21, 25 and 26, Decision of 19 December 2005, United Nations, *RIAA*, vol. XXVI, pp. 291-349.

[224] See examples in ICRC customary law study, *supra* note 5, at p. 4, note 9.

[225] Article 52 — General protection of civilian objects — reads: "1. Civilian objects shall not be the object of attack or of reprisals. Civilian objects are all objects which are not military objectives as defined in paragraph 2.

2. Attacks shall be limited strictly to military objectives. In so far as objects are concerned, military objectives are limited to those objects which by their nature, location, purpose or use make an effective contribution to military action and whose total or partial destruction, capture or neutralization, in the circumstances ruling at the time, offers a definite military advantage.

3. In case of doubt whether an object which is normally dedicated to civilian purposes, such as a place of worship, a house or other dwelling or a school, is being used to make an effective contribution to military action, it shall be presumed not to be so used".

environment as such and the protection of natural objects and natural resources. To give an example, assume that a fisher has exclusive fishing rights to the marine resources in a bay or particular sea area and a belligerent uses the area in violation of the law of armed conflict by dumping dangerous, long-lasting chemicals although this action offers no definite military advantage. Does this mean that the use violates the fisher's private (economic) rights only, or could it also be a violation of the obligation of care to protect the natural environment against widespread, long-term and severe damage?[226]

150. The prohibition of attacks against civilian objects, the civilian population and civilians is repeated in other treaties, such as Protocol II to the Conventional Weapons Convention, on the use of mines, booby traps and other devices.

151. It is possible to conclude that the natural environment is civilian in nature and therefore not in itself a military objective. As with other civilian objects, it may be subject to attack if it is turned into a military objective. The following draft principle is therefore suggested:

Draft principle 1

The natural environment is civilian in nature and may not be the object of an attack, unless and until portions of it become a military objective. It shall be respected and protected, consistent with applicable international law and, in particular, international humanitarian law.

2. Principle of precautions in attack

152. The obligation to take precautions in attack in accordance with Additional Protocol I must not be confused with the precautionary principle or approach often referred to in environmental treaties. They are two different legal concepts that stem from different sources and are to be applied in different contexts. The precautionary principle demands action, even without scientific certainty as to any harm. This stands in contrast to another environmental law principle, namely, the principle of prevention. This principle focuses on harm based on actual or constructive knowledge.[227] Both principles were addressed in 2014 in the preliminary report.[228] The applicability of the principles outside situations of armed conflict is beyond doubt and verified in case law.[229] The extent of their application depends on the legal basis for their applicability and the factual circumstances at hand. One issue concerns whether the principles are applicable also during and armed conflict. A distinction will have to be made between the applicability of the principles outside situations of armed conflict and their possible applicability to the conduct of hostilities.

153. Although general applicability of the principles cannot be excluded, there is little indication that they would be applicable during the conduct of hostilities as such, at least as they are understood in a peacetime environmental law context.

154. At the same time, it is important to recall that an important element of the law of armed conflict is the requirement to take precautionary measures in order to spare

[226] Art. 55.
[227] See A/CN.4/674, para. 137.
[228] Ibid., paras. 133-147.
[229] Ibid., paras. 133-147.

the civilian population, individual civilians and civilian objects. The obligation to take precautions against the effect of attacks is of a relatively new date, and its aim is to protect civilian populations from the effects of attack.[230] The customary law status of the rule has been affirmed in various forums.[231] Article 57, paragraph 2, of Additional Protocol I contains an elaborate list of what is meant by such precautions, which are required to be taken in planning, deciding or conducting an attack.[232] The environment is not mentioned in the article but, to the extent that the environment is considered a civilian object, it will be covered under the precautionary measures to be applied in relation to such object.

155. "Precautions in attack", as the rule often is referred to, do not have a standing of their own. The precise meaning of "feasible precautions" is not found in Additional Protocol I but has to be applied in a context of other legal rules. This stands in contrast to the precautionary principle, which is an autonomous principle (some say an approach).

156. Feasible precautions are defined in article 3, paragraph 10, of Protocol II to the Conventional Weapons Convention as "those precautions which are practicable or practically possible taking into account all circumstances ruling at the time, including humanitarian and military considerations" [233] Although the requirement to

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[230] A. P. V. Rogers, *Law on the Battlefield*, 2nd edition (Manchester: Manchester Press, 2004), at pp. 120-121.

[231] Eritrea-Ethiopia Claims Commission, Partial Award, Western Front, Aerial Bombardment and Related Claims, p. 330.

[232] Article 57 reads:

"1. In the conduct of military operations, constant care shall be taken to spare the civilian population, civilians and civilian objects.

"2. With respect to attacks, the following precautions shall be taken:

"(a) those who plan or decide upon an attack shall: (i) do everything feasible to verify that the objectives to be attacked are neither civilians nor civilian objects and are not subject to special protection but are military objectives within the meaning of paragraph 2 of Article 52 and that it is not prohibited by the provisions of this Protocol to attack them; (ii) take all feasible precautions in the choice of means and methods of attack with a view to avoiding, and in any event to minimizing, incidental loss of civilian life, injury to civilians and damage to civilian objects; (iii) refrain from deciding to launch any attack which may be expected to cause incidental loss of civilian life, injury to civilians, damage to civilian objects, or a combination thereof, which would be excessive in relation to the concrete and direct military advantage anticipated;

"(b) an attack shall be cancelled or suspended if it becomes apparent that the objective is not a military one or is subject to special protection or that the attack may be expected to cause incidental loss of civilian life, injury to civilians, damage to civilian objects, or a combination thereof, which would be excessive in relation to the concrete and direct military advantage anticipated;

"(c) effective advance warning shall be given of attacks which may affect the civilian population, unless circumstances do not permit.

"3. When a choice is possible between several military objectives for obtaining a similar military advantage, the objective to be selected shall be that the attack on which may be expected to cause the least danger to civilian lives and to civilian objects.

"4. In the conduct of military operations at sea or in the air, each Party to the conflict shall, in conformity with its rights and duties under the rules of international law applicable in armed conflict, take all reasonable precautions to avoid losses of civilian lives and damage to civilian objects.

"5. No provision of this Article may be construed as authorizing any attacks against the civilian population, civilians or civilian objects."

[233] See also article 1, paragraph 5, of Protocol III on incendiary weapons, which states: "'Feasible

take feasible precautions reflects customary law, the precision reflected in article 3 is not necessarily a reflection of a generally applicable interpretation of the rule.[234] It is worth noting that States have expressed their interpretation of the term "feasible precautions" upon ratification of Additional Protocol I.[235]

157. Nevertheless, there is a basic common sense rationale behind the two concepts, that is, every action requires some planning and moderation. At the same time, they may need to act based upon available information.

158. The aim of the obligation to take precautions in attack is, as noted, to enhance the protection of the civilian population, individual civilians and civilian objects in order to ensure that they are not subject to incidental loss of life, injury and damage. It can be said to buttress the rule that only military objectives may be targeted.

159. The rule reflects the reality that civilians and civilian objects cannot be entirely protected in time of war. Incidental loss and damage will occur.

160. The following draft principle is proposed:

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precautions' are those precautions which are practicable or practically possible taking into account all circumstances ruling at the time, including humanitarian and military considerations".

[234] The heading of article 3 of Protocol II makes it clear that it sets out "[g]eneral restrictions on the use of mines, booby-traps and other devices". The formulation is unchanged from the original text in Protocol II to the Conventional Weapons Convention.

[235] For example, upon ratification of Additional Protocol I, Spain interpreted the term "feasible" as meaning that "the matter in question is feasible or possible in practice, taking into account all the circumstances prevailing at the time, including humanitarian and military aspects". Belgium declared that: "in view of the *travaux préparatoires*, the expression 'feasible precautions' in Article 41 must be interpreted in the same way as the 'feasible precautions' mentioned in Articles 57 and 58, that is, those that can be taken in the circumstances prevailing at the moment, which include military considerations as much as humanitarian ones". The Netherlands declared that: "The word 'feasible' is to be understood as practicable or practically possible taking into account all circumstances ruling at the time, including humanitarian and military considerations". Algeria stated that the expressions "'feasible precautions' (art. 41, para. 3), 'everything feasible' (art. 57, para. 2) and 'to the maximum extent feasible' (art. 58) are to be interpreted as referring to precautions and measures which are feasible in view of the circumstances and the information and means available at the time". Algeria, Interpretative declaration made at the time of accession, 16 August 1989, at para. 1. Canada stated that: "The word 'feasible' means that which is practicable or practically possible, taking into account all circumstances ruling at the time, including humanitarian and military considerations". Germany stated that it understood the word "feasible" to mean "that which is practicable or practically possible, taking into account all circumstances ruling at the time, including humanitarian and military considerations". The United Kingdom stated that it understood the term "feasible" as used in the Protocol to mean "that which is practicable or practically possible, taking into account all circumstances ruling at the time, including humanitarian and military considerations". The United Kingdom further stated that the obligation mentioned in Article 57(2)(b) of the 1977 Additional Protocol I only applied to "those who have the authority and practical possibility to cancel or suspend the attack". France stated that it considered that the term "feasible" as used in the Protocol meant "that which can be realized or which is possible in practice, taking into account all circumstances ruling at the time, including humanitarian and military considerations". (The declarations and understandings are available at the website of ICRC: https://www.icrc.org/applic/ihl/ihl.nsf/States.xsp?xp_viewStates=XPages_NORMStatesParties&xp_treatySelected=470.)

Draft principle 2

During an armed conflict, fundamental principles and rules of international humanitarian law, including the principles of precautions in attack, distinction and proportionality and the rules on military necessity, shall be applied in a manner so as to enhance the strongest possible protection of the environment.

3. Principle of proportionality

161. The third fundamental principle of relevance to the present report is the principle of proportionality, a rule of customary international law. The principle is reflected in article 51, paragraph 5 (b), of Additional Protocol I, and repeated in its article 57. In addition, the Rome Statute provides that, within the established framework of international law, a war crime is: "intentionally launching an attack in the knowledge that such attack will cause incidental loss of life or injury to civilians or damage to civilian objects ... which would be clearly excessive in relation to the concrete and direct overall military advantage anticipated".[236] Needless to say, there is an ongoing debate on what is considered "concrete and direct overall military advantage". States generally accept the principle but avoid providing information on its precise application. At the same time, it has been underlined that it should be interpreted with a bona fide outcome in mind. The Special Rapporteur is of the view that it is not the task of the Commission to attempt to establish the parameters of the application of the principle, the implications of which are always likely to be debated both within and outside the legal and military communities. Furthermore, evaluation of what is "proportionate" may well develop over time. Such a development is likely to be influenced both by increased scientific knowledge and by advancement in strategic and tactical military thinking, as well as technological development. In addition, societal values change over time and are also likely to influence the understanding of the concept. It therefore suffices to refer to the existence of the principle as such.

162. The International Court of Justice has emphasized the importance of this principle in protecting the environment. It did not consider that "the treaties [on international humanitarian law] in question could have intended to deprive a State of the exercise of its right of self-defence under international law because of its obligations to protect the environment", and continued by stating:

> Nonetheless, States must take environmental considerations into account when assessing what is necessary and proportionate in the pursuit of legitimate military objectives. Respect for the environment is one of the elements that go to assessing whether an action is in conformity with the principles of necessity and proportionality.[237]

163. It is interesting to note that the Court refers to principle 24 of the Rio Declaration on Environment and Development in support of this conclusion. Principle 24 reads:

> Warfare is inherently destructive of sustainable development. States shall therefore respect international law providing protection for the environment in times of armed conflict and cooperate in its further development, as necessary.

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[236] Rome Statute, art. 8, para. 2 (b) (iv). See also the comments *supra* in note 192.

[237] *Legality of the Threat or Use of Nuclear Weapons*, para. 30.

164. The following draft principle is therefore suggested:

Draft principle 3

Environmental considerations must be taken into account when assessing what is necessary and proportionate in the pursuit of lawful military objectives.

165. In addition to the treaty provisions and principles of international humanitarian law referred to above, the Special Rapporteur will address below relevant rules in the ICRC customary law study and some international manuals on the law of armed conflict.

C. International Committee of the Red Cross study on customary international humanitarian law

166. As mentioned in the introduction to the present report, the momentous ICRC study of customary international humanitarian law was published in 2005 after some 10 years of compilation of material and analytical work.[238] The study has no precedent. In addition to the documents on State practice made available by the study, ICRC has also drawn conclusions with regard to the status of the law it examined. As a result, the study contains three rules relating to the protection of the environment. They appear in under part II, "Specifically protected persons and objects". The first is rule 43, which states that the general principles on the conduct of hostilities apply to the natural environment. ICRC concludes that "State practice establishes this rule as a norm of customary international law applicable in both international and non-international armed conflicts".

167. Rule 43 is based on the principle of distinction, the prohibition of destruction of property not justified by military necessity, the principle of proportionality and other rules affording protection to the natural environment.

168. The second, rule 44, addresses the obligation of due regard for the natural environment in military operations. It reads:

> Methods and means of warfare must be employed with due regard to the protection and preservation of the natural environment. In the conduct of military operations, all feasible precautions must be taken to avoid, and in any event to minimize, incidental damage to the environment. Lack of scientific certainty as to the effects on the environment of certain military operations does not absolve a party to the conflict from taking such precautions.

169. The International Committee of the Red Cross considers that State practice establishes this rule "as a norm of customary international law applicable in international, and arguably also in non-international, armed conflicts".

170. Rule 44 is based on the obligation to take all feasible precautions to avoid or minimize damage to the environment, the precautionary principle and the continued application of (international) environmental law during armed conflict.

171. The third, rule 45, refers to a situation in which there is a risk of causing serious damage to the natural environment. It reads:

[238] Jean-Marie Henckaerts and Louise Doswald-Beck, *Customary International Humanitarian Law: Rules*, vol. I (Cambridge, Cambridge University Press, 2005).

> The use of methods or means of warfare that are intended, or may be expected, to cause widespread, long-term and severe damage to the natural environment is prohibited. Destruction of the natural environment may not be used as a weapon.

172. ICRC concludes that this rule also reflects customary international law applicable in international, and arguably also in non-international, armed conflicts. According to the commentary attached to rule 45, "it appears that the United States is a 'persistent objector' to the first part of this rule. In addition, France, the United Kingdom and the United States are persistent objectors with regard to the application of the first part of this rule to the use of nuclear weapons".

173. Rule 45 is based on article 35, paragraph 3, of Additional Protocol I, which prohibits the employment of "methods or means of warfare which are intended, or may be expected to cause, widespread, long-term and severe damage to the natural environment", and on extensive State practice prohibiting the deliberate destruction of the natural environment as a form of weapon.

174. There is yet another rule of direct relevance, rule 42, which concerns works and installations containing dangerous forces. It reads:

> Particular care must be taken if works and installations containing dangerous forces, namely, dams, dykes and nuclear electrical generating stations, and other installations located at or in their vicinity are attacked, in order to avoid the release of dangerous forces and consequent severe losses among the civilian population.

175. ICRC considers that State practice establishes this rule as a norm of customary international law applicable in both international and non-international armed conflicts.

176. Rule 42 is based on the detailed rules contained in article 56 of Additional Protocol I and in article 15 of Additional Protocol II. The first sentences of the two provisions are identical:

> Works or installations containing dangerous forces, namely, dams, dykes and nuclear electrical generating stations, shall not be made the object of attack, even where these objects are military objectives, if such attack may cause the release of dangerous forces and consequent severe losses among the civilian population.

177. It should be noted that Additional Protocol I contains several exceptions to this clear-cut prohibition, stipulating that the special protection against attack provided by paragraph 1 of article 56 shall cease in essence if the objects listed are turned into military objectives by being used in regular, significant and direct support of military operations. A similar exception is not found in Additional Protocol II.

178. Rule 42 contains an obligation of particular care that in one respect goes beyond the formulation found in article 56 of Additional Protocol I and article 15 of Additional Protocol II, given that it also includes other installations located at or in the vicinity of works and installations containing dangerous forces. ICRC is of the view that it should equally apply to other installations, such as chemical plants and petroleum refineries, and explains: "The fact that attacks on such installations may cause severe damage to the civilian population and the natural environment implies

that the decision to attack such installations, in case they become military objectives, requires that all necessary precautions be taken when attacking them".

179. Undeniably, the conclusions reached by ICRC are more than a qualified guess. They are built on extensive and widespread State practice and represent practice from all geographical areas and all major legal systems. Nevertheless, as mentioned above, its methodology and conclusions have been criticized.[239]

D. Manuals on international law applicable in armed conflict

180. It is not uncommon for legal, military and technical experts to analyse and develop suggestions on the identification and development of international law applicable in armed conflict. The tradition dates back to the nineteenth century. For obvious reasons, the resultant military manuals (originally of a national character, later to be elaborated as international manuals) are not binding on States or any other party to an armed conflict, yet they have played a notable role in the development of customary international humanitarian law. The manuals are often a reflection of operational needs and realities and have therefore often come to serve as a basis for national practice or as inspiration for rules of engagement at the national or international level. Given that States are more reluctant to enter into new binding treaty agreements on international humanitarian law while at the same time needing to adjust their operational policies, such manuals may reveal a trend, that is, a possible transition from "soft law" into practice by States. The rules are often a reflection of existing practice (although not necessarily accompanied by *opinio juris* and they may (or may not) develop into customary international law. Given that international experts often draft the manuals together with experts from ICRC, the manuals tend to reflect different concerns and most often reflect existing national manuals and rules of engagement. The final text is therefore always a compromise. It is therefore worth considering what some of the most prominent manuals have to say about the protection of the environment in relation to armed conflicts, namely, the San Remo Manual on International Law Applicable to Armed Conflicts at Sea (1994), the Manual on the Law of Non-International Armed Conflict (2006), the Manual on International Law Applicable to Air and Missile Warfare (2009) and the Tallinn Manual on International Law Applicable to Cyber Warfare (2012).

San Remo Manual on International Law Applicable to Armed Conflicts at Sea[240]

181. The San Remo Manual on International Law Applicable to Armed Conflicts at Sea refers to the protection of the environment in several instances.[241] It can be said

[239] See sect. II of the present report. For the rules relating to the protection of the natural environment, see Karen Hulme, "Natural Environment", in Elizabeth Wilmshurst and Susan Breau (eds.), *supra* note 3, pp. 204-237.

[240] Louise Doswald-Beck (ed.), *San Remo Manual on International Law Applicable to Armed Conflicts at Sea* (Cambridge: Cambridge University Press, 1995). The text was adopted in 1994. Some of the experts who participated in the work of the San Remo Manual also took part in the work on the air and missile warfare manual published by the Program on Humanitarian Policy and Conflict Research at Harvard University (hereinafter "HPCR Manual").

[241] For a discussion on the developments in the protection of the environment in the naval context see Wolff Heintschel von Heinegg and Michael Donner, "New Developments in the Protection of the Natural Environment in Naval Armed Conflicts, *German Yearbook of International Law*, vol. 37 (1994), pp. 281-314.

to be the most broad-minded of all of the manuals in terms of the protection of the environment during armed conflicts. This should considered in the light of the background of the development of the law of the sea resulting in the adoption of the United Nations Convention on the Law of the Sea,[242] whereby new jurisdictional zones (the exclusive economic zone and archipelagic waters) were introduced together with recognition of a 12 nautical mile territorial sea and a new definition of the continental shelf. This changed the legal character of important areas of operations for States engaged in armed conflict. The previous division of the maritime space into either a narrow sea territory (internal waters and territorial sea) or the high seas was replaced by a three-tiered division of the maritime water column: sovereign waters, areas in which the coastal State had well-defined sovereign rights and clearly stipulated jurisdictional rights and, lastly, areas in which the principle of the freedom of the high seas was applicable without any further restrictions.[243] The exclusive economic zone was characterized as having a sui generis legal status.[244] It was in the sui generis areas that the coastal States enjoyed exclusive jurisdiction with regard to the protection of the environment, save for the immunity of warships and other government ships operated for non-commercial purposes.

182. It should be recalled that, at the time of the elaboration of the San Remo Manual, the Islamic Republic of Iran-Iraq war and the Iraq/Kuwait war were fresh in the minds of many. In addition, the protection of the environment during armed conflict was also subject to much attention at the United Nations.[245]

183. The San Remo Manual includes "damage to or the destruction of the natural environment" in its definition of collateral casualties or collateral damage.[246] It was the first time that "natural environment" had been included in the definition of "collateral damage". The commentary makes it clear that this was intentional so as to ensure that collateral damage applied also to the natural environment. Different standards were to be used in assessing whether an attack would cause excessive collateral damage; probable incidental damage to civilian life would be considered with more care than that to the environment.[247]

184. The San Remo Manual also introduces the application of the principle of due regard[248] into the naval war context. This imposes an additional duty on the belligerent States to observe not only the law of armed conflict at sea, but also to "have due regard for the rights and duties of the coastal State, inter alia, for the exploration and exploitation of the economic resources of the exclusive economic

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[242] United Nations, *Treaty Series*, vol. 1833, No. 31363, p. 3.

[243] The area of operations in the air space was affected to the extent that States extended their territorial seas. Certain seabed area of operations became also subject to a new legal regime due to the modified rules regarding the continental shelf.

[244] For the application of the provisions of Part VII of the United Nations Convention on the Law of the Sea, concerning the high seas, see arts. 6 and 58 of the Convention.

[245] See A/66/10, annex E, paras. 10-16.

[246] Rule 13(c) reads: "'collateral casualties' or 'collateral damage' means the loss of life of, or injury to, civilians or other protected persons, and damage to or the destruction of the natural environment or objects that are not in themselves military objectives".

[247] San Remo Manual, Explanation, para.13.10.

[248] For a discussion on the principle of due regard in the law of the sea context, see e.g. Alfred Henry Adriaan Soons, *Marine Scientific Research and the Law of the Sea* (Utrecht: Kluwer Law and Taxation Publishers, 1982) and George K. Walker, *Definitions for the Law of the Sea: Terms not Defined by the 1982 Convention* (Leiden: Martinus Nijhoff Publishers, 2011).

zone and the continental shelf and the protection and preservation of the marine environment".[249]

185. Moreover, it introduces an obligation on a belligerent to notify the coastal State if the belligerent considers it necessary to lay mines in the exclusive economic zone or the continental shelf of a neutral State.[250]

186. The San Remo Manual furthermore addresses the protection of the environment in the section on basic rules and target discrimination. Rule 44 states that: "Methods and means of warfare should be employed with due regard for the natural environment taking into account the relevant rules of international law. Damage to or destruction of the natural environment not justified by military necessity and carried out wantonly is prohibited." This is a general obligation that is not reflected in the wording of any of the existing treaties. The closest formulation is to be found in article 55 of Additional Protocol I.[251] Article 55 reflects the general point that the choice of methods and means of warfare is not unlimited. Seventeen years after the adoption of Additional Protocol I, the San Remo Manual took this one step further, with rule 44 the result of lengthy discussions. A reference to the "due regard formula" without any qualifications was not accepted, primarily owing to the lack of "hard law" rules to the contrary.[252]

187. Lastly, enemy vessels and aircraft are exempt from attack if they are designated or adapted exclusively for responding to pollution incidents in the marine environment.[253] Such vessels are also exempt from capture.[254] Both rules are innovative.[255]

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[249] Rule 34 reads "If hostile actions are conducted within the exclusive economic zone or on the continental shelf of a neutral State, belligerent States shall, in addition to observing the other applicable rules of the law of armed conflict at sea, have due regard for the rights and duties of the coastal State, inter alia, for the exploration and exploitation of the economic resources of the exclusive economic zone and the continental shelf and the protection and preservation of the marine environment. They shall, in particular, have due regard for artificial islands, installations, structures and safety zones established by neutral States in the exclusive economic zone and on the continental shelf". It should be noted that "neutral" is defined in rule 13 (d) of the San Remo Manual as "any State not party to the conflict". The definition and its implication was controversial; see the accompanying Explanation 13.11-13.14.

[250] Rule 35 reads: "If a belligerent considers it necessary to lay mines in the exclusive economic zone or the continental shelf of a neutral State, the belligerent shall notify that State, and shall ensure, inter alia, that the size of the minefield and the type of mines used do not endanger artificial islands, installations and structures, nor interfere with access thereto, and shall avoid so far as practicable interference with the exploration or exploitation of the zone by the neutral State. Due regard shall also be given to the protection and preservation of the marine environment".

[251] The placement of the article in part IV, "Civilian population: Section I. Protection against the effect of hostilities", under chapter III, "Civilian Objects", is relevant in this context.

[252] San Remo Manual, Explanation, paras. 44.1-44.10.

[253] The relevant part of rule 47 of the Manual reads: "The following classes of enemy vessels are exempt from attack: ... (h) vessels designated or adapted exclusively for responding to pollution incidents in the marine environment". There is no parallel rule in the HPCR Manual; see rule 47 which deals with the protection of civilian aircraft in general terms.

[254] The relevant part of rule 136 reads: "The following vessels are exempt from capture: ... (g) vessels designed or adapted exclusively for responding to pollution incidents in the marine environment when actually engaged in such activities". There is no parallel rule in the HPCR Manual but see rule 67, under which aircraft granted safe conduct are exempt from capture as prize.

[255] San Remo Manual, Explanation 47.52 (h) and Explanation 136.1.

Manual on the Law of Non-International Armed Conflict (2006)[256]

188. The Manual on the Law of Non-International Armed Conflict (NIAC Manual) contains only one rule on the protection of the natural environment, which provides that "damage to the natural environment during military operations must not be excessive in relation to the military advantage anticipated from those operations".[257] The authors of the NIAC Manual claim that the rule contained in articles 35, paragraph 3, and 55 of Additional Protocol I, which addresses damage to the natural environment in terms of "widespread, long-term, and severe damage" in the context of international armed conflict, has not been accepted as customary international law in either international or non-international armed conflict.

189. At the same time, it is asserted that "the natural environment is a civilian object" and, as such, parts of the environment therefore benefit from all the rules regarding protection of civilian objects. It is noted that, just as other civilian objects, they "may become military objectives by virtue of their nature, location, purpose or use".[258] The NIAC Manual also notes that the ENMOD Convention prohibits "modifying" the environment as a method of combat if doing so results in widespread, long-lasting or severe effects on the environment.[259] This indicates that the authors consider the ENMOD Convention applicable also in a non-international armed conflict.

Manual on International Law Applicable to Air and Missile Warfare (2009)[260]

190. The Manual on International Law Applicable to Air and Missile Warfare (HPCR Manual) contains the most restrictive formulations with regard to the protection of the environment. It explicitly addresses the environment in two rules under its section M, entitled "Specific protection of the natural environment". The rules are worth quoting in extenso. The first (rule 88) is a general rule providing that "the destruction of the natural environment carried out wantonly is prohibited". The second (rule 89) concerns the specifics of air or missile operations; it states that "when planning and conducting air or missile operations, due regard ought to be given to the natural environment".

191. The two rules were the result of an intense debate among the experts who produced the HPCR Manual.[261] Earlier drafts of the HPCR Manual contained several more rules with regard to the protection of the environment. The only two that endured were the above-mentioned rules 88 and 89. They represent the lowest

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[256] Michael N. Schmitt, Charles H.B. Garraway and Yoram Dinstein, *The Manual on the Law of Non-International Armed Conflict With Commentary* (San Remo, International Institute of Humanitarian Law, 2006). The NIAC Manual reflects the results of a major project launched by the Institute under the directorship of Dr. Dieter Fleck. According to the foreword, the project itself is not entirely finished, ibid. at p. (ii). Although it should therefore be read with caution, it seems worthy of referring to it within the context of the present topic.

[257] NIAC Manual, rule 4.2.4.

[258] Ibid., Commentary 1 to rule.4.2.4.

[259] Ibid., Commentary 2 to rule.4.2.4.

[260] Harvard School of Public Health, Program on Humanitarian Policy and Conflict Research, *HPCR Manual on International Law Applicable to Air and Missile Warfare* (Cambridge, Cambridge University Press, 2013). The final text was adopted in 2009.

[261] The project was launched by the Program on Humanitarian Policy and Conflict Research at Harvard University in 2003 with the aim of restating existing international law applicable to air and missile warfare.

common denominator. This does not mean, however, that the rules and principles protecting the environment are weaker than the bare minimum standard reflected in rules 88 and 89. First, some States are bound by treaty rules that take their obligations further than what is contained in rules 88 and 89. Second, States may restrict their military choices at the national level, for example through national laws or regulations, rules of engagement and national environmental policies, thereby increasing the environmental protection.[262]

192. During the elaboration of the HPCR Manual, references to ENMOD standards were removed, partly because they were not considered to reflect customary law. This included the words "widespread, long-lasting or severe", contained in article I, paragraph 1, of the ENMOD Convention. This is understandable, given that the use of "or" instead of "and" (as in Additional Protocol I) has long been subject to resistance and criticism, and the wording can therefore hardly claim customary law status. Slightly more troubling is the inability of the experts to agree to include wording reflected in articles 35 and 55 of Additional Protocol I. At present, there are 174 parties to the Protocol. This includes four of the five permanent members of the Security Council. The fifth, the United States, has only signed the Protocol. Few of the 174 States have made declarations and/or reservations in relation to articles 35 and 55. The most significant declarations and reservations relate to the non-applicability of the Protocol to other than conventional weapons (i.e. the use of nuclear weapons).[263]

193. As mentioned above, the San Remo Manual includes "damage to and destruction of the natural environment" in its definition of collateral casualties or collateral damage. In contrast, the HPCR Manual does not explicitly include the natural environment in its definition of collateral damage. Its definition reads:

> 'Collateral damage' means incidental loss of civilian life, injury to civilians and damage to civilian objects or other protected objects or a combination thereof, caused by an attack on a lawful target.[264]

194. This does not however, mean that the natural environment is excluded from being subject to "collateral" damage. To the extent that it is considered a civilian object or other protected object or a combination thereof, it would indeed be subject to such damage. There is no explanation in the commentary as to why the reference was deleted.[265]

195. There are two other significant differences between the San Remo and HPCR manuals. The first relates to the area of operations. This is quite logical. Although the law of armed conflict applies to all situations in which an armed conflict is occurring, there is a distinction to be made between operations on the territories of the belligerents and operations on the territory of a non-belligerent (neutral) State.[266] Clearly, naval operations cannot be conducted without consideration of such a State's sovereign rights and prescribed jurisdiction in an exclusive economic zone. This does not mean, however, that military operations may not be conducted in the exclusive economic zone of a non-belligerent (neutral) State. It simply means

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[262] A/CN.4/674, paras. 23-47.

[263] See *supra* para. 126.

[264] HPCR Manual, rule 1, para. (l).

[265] Ibid., Commentary 2 to the definition of "collateral damage", p. 33.

[266] There is no reason to address these rules for the purposes of the present report.

that the outcome of the test of reasonableness (based on the due regard principle) may be different than it would have been had the operation been conducted on the high seas.[267] This is reflected in the San Remo Manual, but there is no need for a similar differentiation in the HPCR Manual because there is no such thing as an exclusive economic zone in airspace.

196. The second obvious difference is found between the section on basic rules and target discrimination (rule 44 in the San Remo Manual) and the two rules in the HPCR Manual.

197. It is not likely that modern naval operations would be conducted in isolation from other military operations. On the contrary, they are likely to be held jointly with air forces. Assuming that a State wishes to incorporate both the San Remo Manual and the HPCR Manual into its military handbook, how would the discrepancy between the rules in the two manuals be reconciled? The experts did address the interaction of air and naval warfare.[268] This included a discussion on the protection of the environment, as formulated in the San Remo Manual. The views expressed by some experts notwithstanding, the wording in rule 44 of the San Remo Manual differs from that in the HPCR Manual and, more specifically, there are three significant differences. First, according to the San Remo Manual, methods and means of warfare "should be employed with due regard for the natural environment", compared with "due regard ought to be given" in rule 89 of the HPCR Manual. Second, there is no reference in the HPCR Manual to the idea that "relevant rules of international law" should be taken into account. Third, there is no reference to "military necessity" in the HPCR Manual.

198. The reference to "due regard" appears in both documents.[269] It is not entirely clear what is meant in this context. As pointed out, "due regard" has its origin in the law of the sea, where it has served as a basic principle to ensure the freedom of the high seas since the days of the Netherlands legal scholar and philosopher, Hugo Grotius. It was introduced in the San Remo Manual to illustrate the balance of rights and obligations of parties involved in armed conflict and those that are not. The principle is also applicable mutatis mutandis to exclusive economic zones.[270]

199. Lastly, it should be mentioned that the HPCR Manual deliberately does not address the issue of reprisals because the experts convened to produce it decided that the Manual was to be "designed for operational use in the conduct of hostilities (*jus in bello*)" and not "implementation and enforcement of the law in the relations between States".[271]

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[267] Note that the exclusive economic zone and the high seas are considered international waters.

[268] The discussion was based on a critical analysis, presented by one of the experts, Professor Wolff Heintschel von Heinegg. He had previously also participated in the work whose outcome was the San Remo Manual.

[269] The expression occasionally appears in treaties, such as in Additional Protocol I article 64(2), Geneva Convention III, annex I, B (II)(1), and Geneva Convention IV, article 95.

[270] United Nations Convention on the Law of the Sea, arts. 87 and 58.

[271] Harvard University, Program on Humanitarian Policy and Conflict Research, *HPCR Manual on International Law Applicable to Air and Missile Warfare* (Cambridge, Cambridge University Press, 2013), introduction, sect. D. Other themes were also excluded, two of which are of relevance for the discussion of the protection of the environment in relation to armed conflict namely, individual criminal responsibility and human rights.

Tallinn Manual on International Law Applicable to Cyber Warfare (2012)

200. The Tallinn Manual on International Law Applicable to Cyber Warfare[272] is of considerable interest when it comes to the protection of the environment during armed conflict. It is worth recalling that cyberwarfare is subject to the same set of rules as any other kind of warfare.[273]

201. The Tallinn Manual refers to the protection of the environment on several occasions. Most important, it contains a specific section on the natural environment. Rule 83 makes it clear that "the natural environment is a civilian object and as such enjoys general protection from cyber attacks and their effects".[274] The accompanying commentary explains that the rule adequately reflects customary law in international armed conflict because "it is based on the principle of distinction as well as the prohibition on attacking civilian objects".[275]

202. Rule 83 furthermore proclaims that "States Party to Additional Protocol I are prohibited from employing cyber methods or means of warfare which are intended, or may be expected, to cause widespread, long-term, and severe damage to the natural environment".[276]

203. The formulation reflects the fact that the experts convened to produce the Manual were divided as to whether the prohibitions in article 35, paragraph 3, and article 55, paragraph 1, of Additional Protocol I reflected customary international law. They decided to overcome their divergence of views by drafting the corresponding rule to apply only to States that were parties to the Protocol.[277]

204. There is no explicit clause stating that wanton destruction of the environment is prohibited. It is clear, however, from the commentary that the experts presumed that this would be the case. It is explained that "wanton" means that "the destruction is the consequence of a deliberate action taken maliciously, that is, the action cannot be justified by military necessity",[278] and suggested that "it would be unlawful to use cyber means to trigger a release of oil into a waterway simply to cause environmental damage".[279]

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[272] Michael N. Schmitt (ed.), *The Tallinn Manual on International Law Applicable to Cyber Warfare* (Cambridge: Cambridge University Press, 2013). The text was finalized in 2012.

[273] Tallinn Manual Group of Experts concluded that general principles of international law apply in cyberspace, see p. 13. The same conclusion has been drawn by the United Nations Group of Governmental Experts (GGE) on Developments in the Field of Information and Telecommunications in the Context of International Security, established by the General Assembly. The GEE based its recommendations on the premise that international law is applicable to information and communication technologies (ICTs), see A/68/98, in particular paras 11, 16, 19, and 23. The Secretary-General of the United Nations expresses appreciation of "the report's focus on the centrality of the Charter of the United Nations and international law as well as the importance of States exercising responsibility".

[274] Tallinn Manual, sect. 9, "The natural environment". Rule 83 (a), on protection of the natural environment.

[275] Ibid., Commentary 1 to rule 83. There was full agreement that the environment is a civilian object and protected as such until it becomes a military objective.

[276] Ibid., rule 83 (b).

[277] This is a technique that was used on a couple of occasions to overcome the different views on whether a particular provision reflects customary international law.

[278] Tallinn Manual, rule 83, para.5.

[279] Ibid.

205. Although Additional Protocol I does not apply to non-international armed conflict, certain experts took the position that its provisions on the environment apply as a matter of customary law in such conflicts.

206. The Tallinn Manual repeats the prohibition of reprisals under Additional Protocol I by stating that the natural environment and dams, dykes and nuclear electrical generating stations may not be the object of a cyberattack by way of reprisal.[280]

207. Based on the State practice, relevant conventions and legal doctrine the following draft principle is proposed:

Draft principle 4

Attacks against the natural environment by way of reprisals are prohibited.

Conclusions

208. There has been no development on the protection of the environment in relation to armed conflicts in the field of treaty law. Only three treaties directly address the matter: the ENMOD Convention, Additional Protocol I and, albeit in a different manner, the Rome Statute. Given the number of States parties to those treaties, it appears possible to conclude that the relevant provisions in those treaties are standard-setting. This is the conclusion in the ICRC customary law study. At the same time, some States have made reservations, interpretative declarations or statements to those provisions. They fall generally into two categories: one relates to the use of nuclear weapons, the other to the targeting process. This means that States will continue to have different views on the precise implications of the provisions, such as the threshold of the prescribed environmental damage.

209. At the same time, other treaties reveal an increasing ambition to protect the environment.

IX. Protected zones and areas

A. Demilitarized zones

210. It is not uncommon for physical areas to be assigned a special legal status as a means to protect and preserve the area. This can be done through international agreements or through national legislation. Under certain conditions, such areas are not only protected in peacetime, but also are immune from attack during an armed conflict. Environmental damage in the zone resulting from armed activities will not occur, provided that prohibitions concerning the zone are respected.

211. The first category that comes to mind is that of demilitarized zones. The term "demilitarized zones" has a special meaning in the context of the law of armed conflict. Such zones are established by the parties to the conflict and it implies that the parties are prohibited from extending their military operations to that zone if such extension is contrary to the terms of their agreement.[281] The ICRC customary

[280] Ibid., rule 47. It is correctly noted that the concept of reprisals does not exist in non-international armed conflict, see Commentary 3 to rule 47, p. 153.

[281] Additional Protocol I, art. 60, para. 1.

law study considers that the rule reflects a norm of customary law in both international and non-international armed conflicts.[282] Demilitarized zones are frequently established for various reasons (military, humanitarian, political); for example, as a measure to prevent a conflict from worsening or as a step towards a peace treaty. The political dimension of a legally designated demilitarized zone is evidenced by the importance that the Security Council attaches to such zones. Breaches of agreements on demilitarized zones are often criticized by the Council and parties are called upon to adhere to them.

212. There are also other kinds of demilitarized zones. Such zones may have been set up in peacetime and may be unrelated to an ongoing armed conflict. They may be referred to as demilitarized zones, zones of peace, areas for peaceful purposes, nuclear-weapon-free zones and nuclear-free zones, to mention but a few examples. Some members of the Commission have referred to the relevance of such zones in the course of the discussion of the topic under review, and it is against that background that the following comments are made.

213. The concept of "demilitarization" has no clear-cut authoritative definition in public international law, yet is a well-established notion both within and outside a legal context. As to the terms used, it is clear that international law does not require that a particular area must have been subject to any form of militarization before it can obtain demilitarized status.[283]

214. Demilitarization has often been defined in terms of an obligation on a State not to station military forces or not to maintain military installations in certain areas of its territory. It is often asserted that demilitarization carries with it a duty to disarm and/or a prohibition on arms in the demilitarized area, and is thus an infringement of a State's territorial sovereignty. According to that view, demilitarization is not construed as preventing a State from using its right to defend its territory from external threats.[284] The numerous examples of demilitarized areas in history and in the world of today[285] clearly indicate, however, that they are not, and cannot, be treated as equivalent cases. It would appear pertinent to categorize them with regard to the legal status of territory subject to a demilitarization

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[282] Jean-Marie Henckaerts and Louise Doswald-Beck, *Customary International Humanitarian Law: Rules*, Vol. I (Cambridge, Cambridge University Press, 2005), pp. 120-121. Making a demilitarized zone an object of attack is a grave breach of the Protocol. See Additional Protocol I, art. 85, para. 3 (d).

[283] It goes without saying that "peaceful purposes" and "demilitarization" are not synonyms. Hence it is not sufficient to assign an area to be used for "peaceful purposes" and thereby automatically achieve the result that the area in question has become "demilitarized". Furthermore, a "zone of peace" is not unanimously defined, although their existence and contents have been well researched; see e.g. Surya P. Subedi, *Land and Maritime Zones of Peace in International Law* (Oxford, Clarendon Press, 1996).

[284] See e.g. the definition in Jost Delbrück, "Demilitarization", in *Encyclopaedia of Public International Law*, vol. 3 (1982), p. 150. A similar definition is found in Mikaela Björklund and Allan Rosas, *Ålandsöarnas Demilitarisering och Neutralisering* (Åbo, Åbo Academy Press, 1990). The Åland Islands are both demilitarized and neutralised. Björklund and Rosas list as further examples of demilitarized and neutralized areas Spitzbergen, Antarctica and the Strait of Magellan. Ibid., p. 17. See Lauri Hannikainen, "The Continued Validity of the Demilitarized and Neutralized Status of the Åland Islands" in *ZaöRV*, vol. 54 (1994), p. 616.

[285] See e.g. Delbrück, *supra* note 284, pp. 150-152. On demilitarized areas in Europe, see Christer Ahlström, *Demilitariserade och Neutraliserade Områden i Europa* ("Demilitarized and Neutralized Areas in Europe"), in Swedish (Åbo, Åland Peace Institute, 1995).

regime,[286] and possible to determine three primary categories, the first of which comprises demilitarized areas under the sovereignty of a State, such as the Åland Islands regime or the Svalbard Archipelago. A second category of demilitarized areas consists of those placed under the control of a limited group of States or international organs, such as the demilitarized zone between the Republic of Korea and the Democratic People's Republic of Korea. The third category would comprise demilitarized areas outside national jurisdiction, such as the international seabed area and outer space.[287]

215. The term "zones of peace" could be held to be conceptually distinct from demilitarized areas, but conceptual differences have been blurred by the recent development of transforming "zones of peace" into legally binding treaties. Accordingly, there exists a grey area.[288] "Peaceful purposes" is yet another concept that lacks a legal definition. It follows from some treaties, such as the Antarctic Treaty,[289] which consider "peaceful purposes" more of a policy concept than a legal concept. It does not in itself carry with it particular legal obligations. The concept is, however, an indicator of the object and purpose of a treaty.[290]

216. The United Nations Convention on the Law of the Sea introduced the application of the concepts "peaceful use" and "peaceful purposes" in the law of the sea context. Similar provisions cannot be found in preceding treaties on the law of the sea. The Convention provides that the "high seas shall be reserved for peaceful

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[286] For a different way of categorizing, see Cyril E. Black, Richard A. Falk, Klaus Knorr and Oran R. Young, *Neutralization and World Politics* (Princeton: Princeton University Press, 1968), at p. xi.

[287] See United Nations Convention on the Law of the Sea, art. 141; Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies, opened for signature at Washington, Moscow and London on 27 January 1967 (United Nations, *Treaty Series*, vol. 610, No. 8843) (as of 1 January 2015, the Treaty had 103 parties, including all nuclear States); and Treaty on the Prohibition on the Emplacement of Nuclear Weapons and Other Weapons of Mass Destruction on the Sea-Bed and the Ocean Floor and in the Subsoil Thereof (opened for signature at London, Moscow and Washington on 11 February 1971 (United Nations, *Treaty Series*, vol. 955, No. 13678).

[288] See e.g. Subedi, *supra* note 283 and Jan Prawitz, *The Concept of NWFZ with a Comment on East Asia*, paper presented at the 45th Pugwash Conference on Science and World Affairs "Towards a Nuclear-Weapon-Free World", 23-29 July 1995, Hiroshima, Japan, at p. 24. Subedi has described "zones of peace" as attempts "to insulate the areas within them from militarization and outside interference that stops short of outright aggression", see p. xli.

[289] United Nations, *Treaty Series*, vol. 402, No. 4778, art. I. Antarctica is undoubtedly demilitarized. It is not included in any of the three categories because of the different views of States with respect to its status.

[290] It encumbers "measures of a military nature" but is not limited to, or identical to, such measures. See for examples, United Nations, Department for Disarmament Affairs, Report of the Secretary-General, The Naval Arms Race, Study Series 16, adopted in New York in 1986, document A/40/535, articles 88, 242(1) and 246(3), pp.47-48 notices this shortcoming. Note that the notion "military purpose" is found e.g. in the Statute of the International Atomic Agency, article III (A) 1, but also in other IAEA statutes, see Christopher Pinto, "Maritime Security and the 1982 United Nations Convention on the Law of the Sea" in Jozef Goldblat (ed.), *Maritime Security: The Building of Confidence*, UNIDIR, Geneva, document UNIDIR/92/89, p.32 and notes 94-95, likewise without being defined. It is not an easy task to define "peaceful purposes" as proved by a Subedi. If international law in general offers little contribution to the meaning of "peaceful purposes", the Antarctic Treaty offers more, and indeed also Subedi reverts to the Antarctic Treaty after having failed in finding a specific definition elsewhere. Subedi, *supra* note 283 at p. 59.

purposes".[291] The introduction of the notion of peaceful purposes does not mean that military activities are banned on the high seas and other sea or seabed areas.[292] The dispute settlement procedure of the Convention bears evidence of this. The compulsory dispute settlement mechanism is applicable to such activities unless a State declares in writing that it does not accept the compulsory procedures entailing binding decisions provided for by the Convention.[293] Most international lawyers agree that article 88 does not prohibit military activities.[294] From this conclusion, it follows that military activities at sea do not necessarily contravene the peaceful purposes objective. Consequently, a military activity can be considered compatible with the peaceful purposes objective and therefore could be considered a legal activity.

217. The traditional freedom of the high seas relevant in this context is the right to peaceful military use of the high seas. That right has strongly survived in the post-Second World War legal order. Few lawyers, and to an even less degree State practice, consider military patrolling, military manoeuvres or even weapon testing as contrary to the freedom of the high seas, let alone the peaceful purposes objective in article 88 of the United Nations Convention on the Law of the Sea. Other provisions of the Convention strengthen the interpretation that peaceful military use of the high seas is highly safeguarded. Having said that, it should be recalled that any use of the high seas is subject to the principle of due regard as set forth in article 87, paragraph 2, of the Convention. As regards the application of the principle of due regard, its application to areas designated exclusive economic zones are more complex than its application to high seas areas. Some countries have claimed that foreign military manoeuvres in their exclusive economic zone are prohibited.[295] To find provisions banning a certain military use of the high seas, one

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[291] Art. 88.

[292] Art. 58, para. 2, provides that article 88 applies to in so far as they are not incompatible with that part of the Convention (i.e. Part V) that deals with the exclusive economic zone. It should be noted that art. 141, which deals with the peaceful purposes objective in relation to the Area, is worded differently in that it provides that the Area shall be open to use *exclusively* for peaceful purposes (emphasis added). It is noteworthy that the Convention places an obligation on the Review Conference to ensure the use of the Area exclusively for peaceful purposes (art. 147, para. 2).

[293] Art. 298, para. 1 (b).

[294] Pinto, *supra* note 290, at p. 35.

[295] For example, when ratifying the Convention in 1988, Brazil stated that the Brazilian Government understands that the provisions of the United Nations Convention on the Law of the Sea "do not authorize other States to carry out military exercises or manoeuvres, in particular those involving the use of weapons and explosives without the consent of the coastal State", quoted from Division for Ocean Affairs and the Law of the Sea, Office of Legal Affairs, United Nations, The Law of the Sea: Declarations and statements with respect to the United Nations Convention on the Law of the Sea and to the Agreement relating to the Implementation of Part XI of the United Nations Convention on the Law of the Sea of December 10 1982 (United Nations Publication, Sales No. E.97.V.3, 1997), p. 22. A similar statement had been made upon signing the United Nations Convention on the Law of the Sea, at p. 4. India, upon ratification in 1995, made an almost identical statement to that of Brazil, with the addition that India also includes the continental shelf, ibid., p. 31. Contrary to the Brazilian view Germany has stated (1994) that the rights and jurisdiction of the coastal State in the exclusive economic zone "do not include the rights (*sic*) to obtain notification of military exercises or manoeuvres or to authorize them", ibid., p. 29. Italy made the same declaration in 1995, ibid., p. 31. Authors who take as a starting-point the principle of the freedom of the high seas and the wording of the Convention, according to article 88, the high seas shall be reserved for "peaceful purposes" tend to support the Brazilian interpretation.

has to go to another system of rules: primarily the Charter of the United Nations, according to which no act of aggression is allowed, but also, for example, environmental and disarmament treaties. Article 88 of the Convention does not intend to demilitarize the high seas. This is underlined by the fact that attempts have been made to demilitarize specific areas of the sea, such as the Indian Ocean, by means of special agreements in parallel to the already established basic rule that the high seas shall be reserved for peaceful purposes.[296] Article 301 of the Convention also addresses the peaceful uses of the sea, although those words are mentioned only in the title and refer simply to the obligation to refrain from the use of force.

218. Maritime areas that are part of a demilitarized or nuclear-weapon-free zone provide a particular legal challenge, given the special status of an exclusive economic zone. Although it is possible to categorize exclusive economic zones as a category sui generis, for the purpose of navigation as well as military activity they are considered international waters.[297] The legal consequence is that States cannot regulate areas outside their sovereignty or mandate of jurisdiction in a manner that is binding for third States.

B. Nuclear-weapon-free zones

219. In 1975, the General Assembly adopted the definition of a "nuclear-weapon-free zone". This requires a treaty or a convention as a base.[298] This probably remains the case as regards the establishment of a nuclear-weapon-free zone, whereas it does not describe the reality of today as regards the establishment of peace zones, that is, zones of peace which can be established also on other grounds, although of course their legal implications will be limited. A zone of peace can therefore be regarded as a lighter concept, such as the stage before an area is made a legally binding nuclear-free zone or a demilitarized zone. Land and maritime zones of peace and nuclear-free or nuclear-weapon-free zones are, or attempt to be, regional confidence-building and disarmament measures. Their value has been debated and often either embraced or strongly criticized.[299] Yet not only are they increasing in number, but there is a tendency to transform them or to reformulate their bases into legally binding treaties. The Treaty of Tlatelolco and the Treaty of

[296] R. R. Churchill and A. V. Lowe, *The Law of the Sea*, 2nd ed. (Manchester University Press, 1988), pp. 313-314. See the corresponding article on the seabed, which reads "*exclusively* for peaceful purposes" (emphasis added). As to the connection between the Indian Ocean as a zone of peace and the Antarctic Treaty, see e.g. Carlos J. Moneta, *La Antartida en el Sistema International del Futuro* (Buenos Aires, Grupo Editor Latinoamericano, 1988), pp. 22-23.

[297] Archipelagic waters are a category of their own and will not be addressed here.

[298] The definition is found in General Assembly resolution 3472 B (XXX), entitled "Comprehensive study of the question of nuclear-weapon-free zones in all its aspects". For a limited definition of "nuclear-weapon state" see Treaty on the Non-Proliferation of Nuclear Weapons, opened for signature at London, Moscow and Washington on 1 July 1968 (United Nations, *Treaty Series*, vol. 729, No. 10485), art. IX, para. 3. Subedi notes that the concept "zones of peace" first appeared in international law in the 1970s. Subedi, *supra* note 283, at p. xlii.

[299] Although Subedi does not give any references in his conclusion, I agree here with the description given by Subedi as regards the two schools of thought in this context, namely, those who regard the establishment of regional zones as unnecessary because "the UN is striving to achieve world peace" and those who see "no relation of opposition between zonal and universal approach to peace: the zonal approach is both complementary and supplementary to the universal approach". Subedi, *supra* note 283, at p. xliv. There is also, however, another dimension that has to do with control (particularly by the major powers).

Rarotonga belong to the earliest examples.[300] Since 1996, several nuclear-weapon-free zones and zones of peace have been established.[301] It has been claimed that the international community encourages the establishment of such zones.[302] Some of the zones apply to the sovereign territories of the parties, such as the African Nuclear-Weapon-Free Zone Treaty (Treaty of Pelindaba), the Treaty on a Nuclear-Weapon-Free Zone in Central Asia (Treaty of Semipalatinsk) and the Treaty on the South-East Asia Nuclear-Weapon-Free Zone (Treaty of Bangkok).[303]

220. The above-mentioned treaties are all legally binding, and some provide for the accession of States located outside the area of application of the treaty. It has been considered of great importance that nuclear-power States located geographically outside the area of application accede to the so-called "guarantee protocols".[304] It is notable that none pretends to establish objective regimes valid *erga omnes* in that all of them contain accession, withdrawal and review clauses.

221. One of the most sensitive issues in negotiating peace zone treaties has always been the area of application. The Treaty of Bangkok includes the exclusive economic zones of the parties to the Treaty and the airspace over the continental shelf.[305] At the same time, the Treaty provides that none of its provisions shall prejudice the rights or the exercise of those rights by any other States under the provisions of the United Nations Convention on the Law of the Sea.[306] Freedom of the high seas and the rights of passage are explicitly mentioned in the Treaty. The Treaty of Pelindaba also contains a "non-prejudice" clause with regard to the rights or exercise of rights under the principle of the freedom of the seas.[307] Both treaties also have compliance mechanisms and impose obligations on the parties to cooperate with the International Atomic Energy Agency.

222. In addition, the General Assembly has on several occasions adopted resolutions establishing zones of peace or nuclear-weapon-free zones in areas of the sea, such as the Indian Ocean and the southern hemisphere (i.e. the South Atlantic) and adjacent areas.[308] Assembly resolutions are not legally binding but do signal a

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[300] Respectively, Treaty for the Prohibition of Nuclear Weapons in Latin America and the Caribbean, United Nations, *Treaty Series*, vol. 634, No. 9068, and South Pacific Nuclear Free Zone Treaty, United Nations, *Treaty Series*, vol. 1445, No. 24592.

[301] The General Assembly has adopted numerous resolutions on the matter, see for example resolution 60/58 (Nuclear-weapon-free southern hemisphere and adjacent areas). For examples of literature on the subject, see Subedi, *supra* note 283 and Prawitz, *supra* note 288.

[302] Prawitz, *supra* note 288, at p. 11 and note 46, referring to the Principles and Objectives for Nuclear Non-Proliferation and Disarmament adopted at the NPT Conference, document NPT/CONF.1995/32/DEC.2, annexed to document NPT/CONF.1995/32 (Part I).

[303] African Nuclear-Weapon-Free Zone Treaty, done at Cairo on 11 April 1996, International Legal Materials , vol. 35 (1996), p. 698; Southeast Asia Nuclear Weapon-Free Zone Treaty, done at Bangkok on 15 December 1995 (United Nations, *Treaty Series*, vol. 1981, No. 33873); and Treaty on a Nuclear-Weapon-Free-Zone in Central Asia, done at Semipalatinsk on 8 September 2006 (United Nations, *Treaty Series*, No. 51633).

[304] It has also been proposed to establish nuclear-weapon-free zones in other areas, such as the Middle East and North-East Asia. Prawitz, *supra* note 288, at pp. 18-24. Subedi, *supra* note 283, at pp. 115-134.

[305] Treaty of Bangkok, article 1 (a) and (b).

[306] United Nations Convention on the Law of the Sea, art. 2.

[307] Treaty of Pelindaba, article 2, para. 2.

[308] Implementation of the Declaration of the Indian Ocean as a Zone of Peace, General Assembly resolution 50/76 of 11 January 1996, which recalled a number of other resolutions such as resolution 2833 (XXVI) of 16 December 1971, resolution 49/82 of 15 December 1994, and zone of peace and cooperation of the South Atlantic, resolution 50/18 of 7 December 1995.

political ambition. Initially, none of the five nuclear-weapon States that are permanent members of the Security Council was happy with the establishment of such sea area peace zones. Their views in fact mirrored a difference in perspective regarding the law of the sea. The States initially averse to them have, despite this and always at a late stage, decided to participate in the discussions on the establishment of such zones.

223. On the basis of the discussion above, it is not possible to conclude that demilitarized zones or nuclear-weapon-free zones will automatically continue to exempt the area concerned from all military activities and thereby indirectly spare the environment. Every treaty needs to be analysed on the basis of its wording, objective and purpose. However, if a demilitarized zone is established as a treaty "declaring, creating, or regulating a permanent regime or status, or related permanent rights" such as a treaty "neutralizing part of the territory of a State", it may be a considered a treaty that continues to operate during armed conflict, according to the draft articles on the effect of armed conflict on treaties.[309]

C. Natural heritage zones and areas of major ecological importance

224. In 2014, some members of the Commission suggested that cultural heritage should be included in the present report because to do otherwise would lead to inconsistencies. Most speakers, however, remained of the view that cultural heritage should be excluded. In summing up the debate, the Special Rapporteur underlined that issues relating to cultural property, cultural heritage and natural landscape were complex. There exists an intricate relationship between environment and cultural heritage, in particular when speaking of the aesthetic or characteristic aspects of the landscape. This relates also to indigenous peoples' rights to their environment as a cultural and natural resource.[310] There is a gap between the protection of cultural property and cultural heritage in relation to armed conflicts. This gap is caused by the fact that the United Nations Educational, Scientific and Cultural Organization Convention for the Protection of the World Cultural and Natural Heritage of 1972, by including also "works of man or the combined works of nature and man", such as aesthetic aspects of landscapes in the definition of cultural heritage,[311] provides a broader definition (in this respect) than the term "cultural property" under the Convention for the Protection of Cultural Property in the Event of Armed Conflict[312] of 1954 and the second Protocol to Convention for the Protection of

[309] *Yearbook ... 2011*, vol. II (Part Two), article 7 and the Annex (Indicative list of treaties referred to in article 7), p. (b).

[310] The situation of the Marsh Arab community after the Saddam Hussein's Ba'athist drainage projects, beginning during the Islamic Republic of Iran-Iraq war in the 1980s, provides a tragic example of a situation in which a lack of protection of the environment during armed conflict may carry with it devastating consequences for the peoples that are dependent on the land for their survival. See Carina Roselli, *At the Intersection of Human Rights and the Environment in Iraq's Southern Marshes*. See also *Protection of the Natural Environment in Armed Conflict: An Empirical Study*, Report 12/2014 (Oslo, International Law and Policy Institute, 2014), pp. 21-23.

[311] Convention concerning the Protection of the World Cultural and Natural Heritage (World Heritage Convention), done at Paris on 16 November 1972 (United Nations, *Treaty Series*, vol. 1037, No. 15511), art. 1.

[312] Convention for the Protection of Cultural Property in the Event of Armed Conflict, done at The Hague on 14 May 1954 (United Nations, *Treaty Series*, vol. 249, No. 15511). The 1954 Convention renders clear that there are certain movables or immovables that are different from

Cultural Property in the Event of Armed Conflict.[313] In this context, it is worth recalling that the Commission has included "non-service values such as aesthetic aspects of the landscape" in the definition of the environment in the draft principles on the allocation of loss in the case of transboundary harm arising out of hazardous activities. This includes the enjoyment of nature because of its natural beauty and the recreational attributes and opportunities associated with it.[314]

225. In this context, particular weight should be given to the protection of areas of major ecological importance that are susceptible to the adverse consequences of hostilities.[315] A proposal to furnish special protection to areas of major ecological importance was made at the time of the drafting of the Additional Protocols to the Geneva Conventions, when a conference working group submitted a proposal providing that "publicly recognized nature reserves with adequate markings and boundaries declared as such to the adversary shall be protected and respected except when such reserves are used specifically for military purposes".[316] The proposal — formulated in the infancy of international environmental law — was not adopted.

226. The proposal should be viewed against the comparable system of specially protected areas that exists for cultural property. The second Protocol to the Convention for the Protection of Cultural Property in the Event of Armed Conflict[317] establishes a system of so-called "enhanced protection", under which cultural property of special significance for humanity is entered on a list and the parties to the Protocol undertake never to use it to back up military operations.[318] A similar system of listed sites also exists in the World Heritage Convention,[319] which requires States "not to take any deliberate measures which might damage directly or indirectly the cultural and natural heritage".[320] It also provides for the inscription on the List of

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the rest due to their great importance to the cultural heritage of peoples. The convention thus singles out "cultural property" from the mass of civilian property. Within the category of cultural property, it then goes on to differentiate immovable of very great importance. However, this latter type of property of very great importance does not correspond fully to the concept of "cultural heritage".

313 Second Protocol to the Convention for the Protection of Cultural Property in the Event of Armed Conflict.

314 *Yearbook ... 2006*, vol. II (Part Two), draft principles on allocation of loss in the case of transboundary harm from hazardous activities, para. 20 of the commentary to principle 2 (Use of terms). See also A/CN.4/674, paras. 79-80.

315 Claudia Droege and Marie-Louise Tougas, "The Protection of the Natural Environment in Armed Conflict — Existing Rules and Need for Further Legal Protection" *Nordic Journal of International Law*, vol. 82 (2013), p. 21, at p. 43.

316 See Claude Pilloud and Jean Pictet, "Article 55: Protection of the Natural Environment", in Yvez Sandoz and others (eds.), *Commentary on the Additional Protocols of 8 June 1977 to the Geneva Conventions of 12 August of 1949* (Dordrecht, Netherlands, ICRC/Martinus Nijhoff ,1987), pp. 661-664 at p. 664, paras. 2138-2139. The proposal on draft article 48 *ter* came from the working group of Committee III.

317 Second Protocol to the Convention for the Protection of Cultural Property in the Event of Armed Conflict.

318 Ibid., art. 10.

319 Convention concerning the Protection of the World Cultural and Natural Heritage (World Heritage Convention), done at Paris on 16 November 1972, United Nations, *Treaty Series*, vol. 1037, No. 15511, p. 151.

320 Art. 6, para. 3.

World Heritage in Danger of any world heritage endangered by "the outbreak or the threat of an armed conflict".[321]

227. Moreover, the World Heritage Convention imposes duties on States parties in relation to natural heritage properties as well. Under that instrument, the World Heritage Committee establishes and updates a world heritage list of cultural heritage and natural heritage properties (the World Heritage List) considered of outstanding universal value. Listing requires the consent of the State concerned. In addition, the Committee maintains the List of World Heritage in Danger, which includes sites for the conservation of which major operations are necessary and for which assistance has been requested under the Convention.[322] A property forming part of the cultural and natural heritage is listed only if it is "threatened by serious and specific dangers", including the outbreak of an armed conflict, as expressly stated in article 11, paragraph 4.[323]

228. At present, 197 properties forming part of natural heritage are listed on the World Heritage List.[324] Some of these are included in the List of World Heritage in Danger in accordance with article 11, paragraph 4, of the World Heritage Convention.

229. The following draft principle is proposed:

Draft principle 5

States should designate areas of major ecological importance as demilitarized zones before the commencement of an armed conflict, or at least at its outset.

X. Future programme of work

230. The forthcoming third report will include proposals on post-conflict measures, including cooperation, sharing of information and best practices, and reparative measures.

231. The third report will attempt to close the circle of all three temporal phases and will consist of three parts. The first will focus on the law applicable after an armed conflict. The second will address issues that have not yet been discussed,

[321] Art. 11, para. 4.

[322] Convention concerning the Protection of The World Cultural and Natural Heritage, done at Paris on 16 November 1972 (United Nations, *Treaty Series*, vol. 1037, No. 151). In accordance with article 2, natural heritage is defined and delineated into three main categories: natural features, geological and physiographical formations and natural sites. Article 2 provides as follows:

"For the purposes of this Convention, the following shall be considered as 'natural heritage':

"natural features consisting of physical and biological formations or groups of such formations, which are of outstanding universal value from the aesthetic or scientific point of view;

"geological and physiographical formations and precisely delineated areas which constitute the habitat of threatened species of animals and plants of outstanding universal value from the point of view of science or conservation;

"natural sites or precisely delineated natural areas of outstanding universal value from the point of view of science, conservation or natural beauty."

[323] Art. 2.

[324] For the properties listed on the World Heritage List, see http://whc.unesco.org/en/list/?&&&type=natural.

such as occupation. The third will contain a summary analysis of all three phases. This will hopefully assist the Commission in deciding how to proceed with the topic. The Special Rapporteur wishes to reiterate that, should there be a need to continue with enhanced progressive development or codification as a result of the work undertaken, a decision would need to be taken by the Commission, or by States, at a subsequent stage. It would be well within the scope of article 1 of the statute of the Commission, namely, that the Commission "shall have for its object the promotion of the progressive development of international law and its codification".

232. The Special Rapporteur will continue consultations with other entities, such as ICRC, the United Nations Educational, Scientific and Cultural Organization and UNEP, as well as regional organizations. It would also be of great value if the Commission were to reiterate its request to States to provide examples of rules of international environmental law, including regional and bilateral treaties, which have continued to apply in times of international or non-international armed conflict as well as post-armed conflict. Furthermore, it would also be of assistance if States could continue to provide examples of national legislation relevant to the topic and case law in which international or national environmental law has been applied.

Annex I

Protection of the environment in relation to armed conflicts: proposed draft principles

Preamble

Scope of the principles

The present principles apply to the protection of the environment in relation to armed conflicts.

Purpose

These principles are aimed at enhancing the protection of the environment in relation to armed conflicts through preventive and restorative measures.

They also are aimed at minimizing collateral damage to the environment during armed conflict.

Use of terms[a]

For the purposes of the present principles

(a) "armed conflict" means a situation in which there is resort to armed force between States or protracted resort to armed force between governmental authorities and organized armed groups or between such groups within a State;

(b) "environment" includes natural resources, both abiotic and biotic, such as air, water, soil, fauna and flora and the interaction between the same factors, and the characteristics of the landscape.

Draft principles

Principle 1

The natural environment is civilian in nature and may not be the object of an attack, unless and until portions of it become a military objective. It shall be respected and protected, consistent with applicable international law and, in particular, international humanitarian law.

Principle 2

During an armed conflict, fundamental principles and rules of international humanitarian law, including the principles of precautions in attack, distinction and proportionality and the rules on military necessity, shall be applied in a manner so as to enhance the strongest possible protection of the environment.

Principle 3

Environmental considerations must be taken into account when assessing what is necessary and proportionate in the pursuit of lawful military objectives.

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[a] Submitted in the preliminary report (A/CN.4/674 and Corr.1), sect. VII.

Principle 4

Attacks against the natural environment by way of reprisals are prohibited.

Principle 5

States should designate areas of major ecological importance as demilitarized zones before the commencement of an armed conflict, or at least at its outset.

Annex II

Select bibliography

Abascal, Christine Stockins. Protección del medio ambiente en los conflictos armados. Dissertation. Pontificia Universidad Católica de Chile, 2009.

Acconci, Pia, and others, eds. *International Law and the Protection of Humanity: Essays in Honor of Judge Flavia Lattanzi* (forthcoming).

Ahlström, Christer. *Demilitariserade och neutraliserade områden i Europa*. Mariehamn: Åland Islands Peace Institute, 1995.

Ajibola, Bola. Protection of the environment in times of armed conflict. In *International Legal Issues Arising under the United Nations Decade of International Law*, Najeeb Al-Nauimi and Richard Meese, eds. The Hague: Martinus Nijhoff, 1995.

Almond, Harry H., Jr. The use of the environment as an instrument of war. *Yearbook of International Environmental Law*, vol. 2, No. 1 (1991), pp. 455-468.

Alston, Philip, Jason Morgan-Foster, and William Abresch. The competence of the UN Human Rights Council and its special procedures in relation to armed conflicts: extrajudicial executions in the "War on Terror". *European Journal of International Law*, vol. 19, No. 1 (2008), pp. 183-209.

Anderson, Terry L., and J. Bishop Grewell. The greening of foreign policy. *PERC Policy Series*, vol. 20, 2000.

Antoine, Philippe. Droit international humanitaire et protection de l'environnement en cas de conflit armé. *Revue internationale de la Croix-Rouge*, vol. 74, No. 798 (1992), pp. 537-558.

Anton, Donald K., and Dinah L. Shelton. *Environmental Protection and Human Rights*. Cambridge: Cambridge University Press, 2011.

Arraiza Navas, Fermín Luís, and Pedro J. Varela Fernández. Vieques: prácticas de guerra, derechos humanos y ambiente. *Revista Jurídica Universidad de Puerto Rico*, vol. 70, No. 1 (2001), pp. 209-233.

Asociación Española de Profesores de Derecho Internacional y Relaciones Internacionales. *Problemas Internacionales del Medio Ambiente: VIII Jornadas, Barcelona, 2 a 5 de julio de 1984*. Bellaterra, Barcelona: 1985.

Austin, Jay. *Conflict-Environment: Questions over Accountability in Kosovo*. Geneva: United Nations Environment Programme, November 1999.

Austin, Jay, and Carl E. Bruch, eds. *The Environmental Consequences of War: Legal, Economic, and Scientific Perspectives*. Cambridge: Cambridge University Press, 2000.

Baker, Betsy. Legal protections for the environment in times of armed conflict. *Virginia Journal of International Law*, vol. 33, No. 2 (1993), pp. 351-383.

Banerjee, Rishav. Destruction of environment during an armed conflict and violation of international law: a legal analysis. In *Asian Yearbook of International Law*, vol. 15. B. S. Chimni, M. Masahiro and J. Rehman, eds. London: Routledge, 2009, pp. 145-188.

Bannelier-Christakis, Karine. L'utopie de la « guerre verte » : insuffisances et lacunes du régime de protection de l'environnement en temps de guerre. In *Permanence et mutation du droit des conflits armés*, Vincent Chetail, ed. Brussels: Bruylant, 2013.

Barboza, Julio. *The Environment, Risk and Liability in International Law*. Leiden: Martinus Nijhoff Publishers, 2011.

Barned, Ashley, and Christopher Waters. The Arctic environment and international humanitarian law. In *Canadian Yearbook of International Law*, vol. 49, J. H. Currie and R. Provost, eds. Vancouver: University of British Columbia Press, 2011, pp. 213-241.

Bassiouni, M. Cherif. International crimes: *jus cogens* and *obligatio erga omnes*. *Law and Contemporary Problems*, vol. 59, No. 4 (1996), pp. 63-74.

Bächler, Günther, and Kurt R. Spillman, eds. *Environmental Degradation as a Cause of War: Country Studies of External Experts*. Chur-Zürich: Rüegger, 1996.

Bethlehem, Daniel. The methodological framework of the Study. In *Perspectives on the ICRC Study on Customary International Humanitarian Law*, Elizabeth Wilmshurst and Susan Breau, eds. Cambridge: Cambridge University Press, 2007, pp. 3-14.

Birnie, Patricia, Alan Boyle, and Catherine Redgewell. *International Law and the Environment*. Oxford: Oxford University Press, 2009.

Björklund, Mikaela, and Allan Rosas. *Ålandsöarnas demilitarisering och neutralisering*. Åbo: Åbo Akademi University Press, 1990.

Black, Cyril E., and others. *Neutralization and World Politics*. Princeton: Princeton University Press, 1968.

Blattmann, Heidi. Environmental damage from the Gulf war. *Swiss Review of World Affairs*, vol. 42, No. 3 (1992), pp. 27-28.

Blishchenko, Igor P., and Vladimir P. Shavrov. The legal basis of claims for damage to the environment resulting from military action. *Österreichische Zeitschrift für öffentliches Recht und Völkerrecht*, vol. 40, No. 1 (1989), pp. 29-45.

Blom, Esther, and others, eds. *Nature in War: Biodiversity Conservation during Conflict*. Leiden: Nederlandse Commissie voor Internationale Natuurbescherming, 2000.

Bodansky, Daniel. *Legal Regulation of the Effects of Military Activity on the Environment*. Berlin, Erich Schmidt Verlag, 2003.

Bodansky, Daniel, Jutta Brunnée, and Ellen Hey. *The Oxford Handbook on International Environmental Law*. Oxford: Oxford University Press, 2007.

Boelart-Suominen, Sonja Ann Jozef. *International Environmental Law and Naval War: The Effect of Marine Safety and Pollution Conventions during International Armed Conflict*. Newport Paper, No. 15. Newport: Naval War College, 2000.

Booley, Ashraf, and Letetia van der Poll. In our common interest: liability and redress for damage caused to the natural environment during armed conflict. *Law, Democracy and Development*, vol. 15, 2011, pp. 90-129.

Bothe, Michael. The ethics, principles and objectives of protection of the environment in times of armed conflict. In *War and the Environment: New Approaches to Protecting the Environment in Relation to Armed Conflict*, Rosemary Rayfuse, ed. Leiden: Brill, 2014.

_____.The protection of the environment in times of armed conflict: legal rules, uncertainty, deficiencies and possible developments. *German Yearbook of International Law*, vol. 34, 1991, pp. 54-62.

_____. Protection of the environment in times of armed conflict. In *International Legal Issues Arising under the United Nations Decade of International Law*, Najeeb Al-Nauimi and Richard Meese, eds. The Hague: Martinus Nijhoff Publishers, 1995.

Bothe, Michael, and others. *Protection of the Environment in Times of Armed Conflict*. Report to the Commission of the European Communities, SJ/110/85. 1985.

Bothe, Michael, and others. International law protecting the environment during armed conflict: gaps and opportunities. *International Review of the Red Cross*, vol. 92, No. 879 (2010), pp. 569-592.

Bothe, Michael, Karl Josef Partsch, and Waldemar A. Solfal. *New Rules for Victims of Armed Conflicts: Commentary on the Two 1977 Protocols Additional to the Geneva Conventions of 1949*. 2nd ed. The Hague: Martinus Nijhoff Publishers, 2013.

Bouvier, Antoine. La protection de l'environnement naturel en période de conflit armé. *Revue internationale de la Croix-Rouge*, vol. 73, No. 792 (1991), pp. 599-611.

Bruch, Carl. *Constitutional Environmental Law: Giving Force to Fundamental Principles in Africa*. 2nd ed. Washington, D.C.: Environmental Law Institute, 2007.

Bruch, Carl E., and Jay E. Austin, eds. *The Environmental Consequences of War: Legal, Economic, and Scientific Perspectives*. Cambridge: Cambridge University Press, 2000.

Bruch, Carl, and others. Post-conflict peace building and natural resources. *Yearbook of International Environmental Law*, vol. 19, No. 1 (2008), pp. 58-96.

Bunker, Alice Louise. Protection of the environment during armed conflict: one Gulf, two wars. *Review of European Community and International Environmental Law*, vol. 13, No. 2 (2004), pp. 201-213.

Carnahan, Burris M. The law of land mine warfare: Protocol II to the United Nations Convention on Certain Conventional Weapons. *Military Law Review*, vol. 105, 1984, pp. 73-95.

Caron, David D. Finding out what the oceans claim: the 1991 Gulf War, the marine environment, and the United Nations Compensation Commission. In *Bringing New Law to Ocean Waters*, David D. Caron and Harry N. Scheiber, eds. Leiden: Martinus Nijhoff Publishers, 2004.

Churchill, R. R., and A. V. Lowe. *The Law of the Sea*. Manchester: Manchester University Press, 1999.

Clément, Etienne. Le réexamen de la Convention de la Haye de 1954 pour la protection des biens culturels en cas de conflit armé. In *International Legal Issues*

Arising under the United Nations Decade of International Law, Najeeb Al-Nauimi and Richard Meese, eds. The Hague: Martinus Nijhoff Publishers, 1995.

Cortina Mendoza, R., and V. Saco Chung. La protección del medio ambiente en el derecho internacional humanitario. *Revista da Faculdade de Direito da UFMG*, vol. 51, 2007, pp. 255-277.

Crawford, Alex, and Johannah Bernstein. *MEAs, Conservation and Conflict: A Case Study of Virunga National Park, DRC*. Winnipeg: International Institute for Sustainable Development, 2008.

Crawford, Emily. Armed conflict, international. In *Max Planck Encyclopaedia of Public International Law*, vol. I, Rüdiger Wolfrum, ed. Oxford: Oxford University Press, 2012.

Dam-de Jong, Daniëlla. From engines for conflict into engines for sustainable development: the potential of international law to address predatory exploitation of natural resources in situations of internal armed conflict. *Nordic Journal of International Law*, vol. 82, No. 1 (2013), pp. 155-178.

_____. *International Law and Governance of Natural Resources in Conflict and Post-Conflict Situations*. Cambridge: Cambridge University Press, 2015.

_____. International law and resource plunder: the protection of natural resources during armed conflict. *Yearbook of International Environmental Law*, vol. 19, No. 1 (2008), pp. 27-57.

Das, Onita. *Environmental Protection, Security and Armed Conflict: A Sustainable Development Perspective*. Cheltenham: Edward Elgar Publishing, 2013.

_____. Environmental protection in armed conflict: filling the gaps with sustainable development. *Nordic Journal of International Law*, vol. 82, No. 1 (2013), pp. 103-128.

D'Aspremont, Jean. Towards an international law of brigandage: interpretative engineering for the regulation of natural resource exploitation. *Asian Journal of International Law*, vol. 3, No. 1 (2013), pp. 1-24.

Debonnet, Guy, and Kes Hillman-Smith. Supporting protected areas in a time of political turmoil: the case of world heritage sites in the Democratic Republic of the Congo. *Parks*, vol. 14, No. 1 (2004), pp. 9-16.

Delbrück, Jost. Demilitarization. In *Encyclopedia of Public International Law*, vol. 3, Rudolf Bernhardt and Peter Macalister-Smith, eds. Amsterdam: North-Holland, 1982, pp. 150-152.

Desch, Thomas. Haftung für Umweltschäden im Krieg: einige Bemerkungen zu I. P. Blishchenko und V. Ph. Shavrov. *Österreichische Zeitschrift für öffentliches Recht und Völkerrecht*, vol. 40, No. 1 (1989), pp. 47-71.

Desgagné, Richard. The prevention of environmental damage in time of armed conflict: proportionality and precautionary measures. *Yearbook of International Humanitarian Law*, vol. 3, 2000, pp. 109-129.

Deutsches Rotes Kreuz, and Institut für Friedenssicherungsrecht und Humanitäres Völkerrecht. Humanitäres Völkerrecht: *Informationsschriften — Journal of International Law of Peace and Armed Conflict*, vol. 26, No. 3 (2013), pp. 111-159.

Dienelt, Anne. After the war is before the war: the environment, preventive IHL measures and their post-conflict impact. PhD thesis. University of Göttingen, 2014.

Dinstein, Yoram. Protection of the environment in international armed conflict. In *Max Planck Yearbook of United Nations Law*, vol. 5, J. A. Frowein, and R. Wolfrum, eds. Netherlands: Kluwer Law International, 2001, pp. 523-549.

_____. *War, Aggression and Self-Defence*, 5th ed. Cambridge: Cambridge University Press, 2011.

Domínguez-Matés, Rosario. Desafío para el derecho internacional humanitario: responsabilidad penal internacional del individuo por daños al medio ambiente durante un conflicto armado. *American University International Law Review*, vol. 20, 2004, pp. 43-63.

_____. New weaponry technologies and international humanitarian law: their consequences on the human being and the environment. In *The New Challenges of Humanitarian Law in Armed Conflicts: In Honour of Professor Juan Antonio Carrillo-Salcedo*, Pablo Antonio Fernández-Sánchez, ed. Leiden: Martinus Nijhoff Publishers, 2005.

Dorsey, Jessica. Conference notes on protection of the environment in armed conflict: testing the adequacy of international law. The Hague: T.M.C. Asser Instituut, 7 November 2011.

Dorsouma, Al-Hamandou, and Michel-André Bouchard. Conflits armés et environnement. *Développement durable et territoires*, vol. 8, 2006.

Doswald-Beck, Louise. *Human Rights in Times of Conflict and Terrorism*. Oxford: Oxford University Press, 2011.

_____, ed. *San Remo Manual on International Law Applicable to Armed Conflicts at Sea*. Cambridge: Cambridge University Press, 1995.

Douhan, Alena. Liability for environmental damage. In *Max Planck Encyclopaedia of Public International Law*, vol. VI, Rüdiger Wolfrum, ed. Oxford: Oxford University Press, 2012.

Droege, Cordula, and Marie-Louise Tougas. The protection of the natural environment in armed conflict — existing rules and need for further legal protection. *Nordic Journal of International Law*, vol. 82, No. 1 (2013), pp. 21-52.

DuBarry Huston, Meredith. Wartime environmental damages: financing the clean-up. *University of Pennsylvania Journal of International Economic Law*, vol. 23, No. 4 (2002), pp. 899-929.

Elias, Olufemi. Environmental impact assessment. In *Research Handbook on International Environmental Law*, Malgosia Fitzmaurice, David M. Ong and Panos Merkouris, eds. Cheltenham: Edward Elgar Publishing, 2010.

Eniang, Edem, Amleset Haile, and Teshale Yihdego. Impacts of landmines on the environment and biodiversity. *Environmental Policy and Law*, vol. 37, No. 6 (2007), pp. 501-504.

Falk, Richard. The inadequacy of the existing legal approach to environmental protection in wartime. In *The Environmental Consequences of War: Legal, Economic, and Scientific Perspectives*, Jay E. Austin and Carl E. Bruch, eds. Cambridge: Cambridge University Press, 2000.

_____. Environmental disruption by military means and international law. *Yearbook of International Environmental Law*, vol. 15, 2004, pp. 725-731.

Feliciano, Florentino P. Marine pollution and spoliation of natural resources as war measures: a note on some international law problems in the Gulf War. *Houston Journal of International Law*, vol. 14, No. 3 (1992), pp. 496-497.

Fenrick, William J. The law applicable to targeting and proportionality after Operation Allied Force: a view from the outside. *Yearbook of International Humanitarian Law*, vol. 3, 2000, pp. 53-80.

Fischhaber, Hans-Bjoern. Military concept on environmental protection and energy efficiency for EU-led military operations: real commitments or another "paper tiger"? *Energy Security Highlights*, vol. 10, No. 19 (2012), pp. 22-24.

Fitzmaurice, Malgosia, David M. Ong, and Panous Merkouris, eds. *Research Handbook on International Environmental Law*. Cheltenham: Edward Elgar Publishing, 2010.

Fleck, Dieter. Current legal and policy issues. In *Future Legal Restraints on Arms Proliferation: Arms Control and Disarmament Law*. United Nations publication, Sales No. E.96.0.24.

_____. The protection of the environment in armed conflict: legal obligations in the absence of specific rules. *Nordic Journal of International Law*, vol. 82, No. 1 (2013), pp. 7-20.

French, Duncan. Sustainable development. In *Research Handbook on International Environmental Law*, Malgosia Fitzmaurice, David M. Ong and Panos Merkouris, eds. Cheltenham: Edward Elgar Publishing, 2010.

Frigo, Manilio. Cultural property v. cultural heritage: a "battle of concepts" in international law? *International Review of the Red Cross*, vol. 86, No. 854 (2004), pp. 367-378.

Gardam, Judith G. Energy and the law of armed conflict. *Journal of Energy and Natural Resources Law*, vol. 15, No. 2 (1997), pp. 87-96.

Gasser, Hans-Peter. For better protection of the natural environment in armed conflict: a proposal for action. *American Journal of International Law*, vol. 89, No. 3 (1995), pp. 637-640.

Gehring, Réa. La protection de l'environnement en période de conflit armé: que peut ou pourrait apporter la Cour pénale international. Université de Lausanne, 2001.

Goldblat, Jozef. Legal protection of the environment against the effects of military activities. *Bulletin of Peace Proposals*, vol. 22, No. 4 (1991), pp. 399-406.

_____. The mitigation of environmental disruption by war: legal approaches. In *Environment Hazards of War: Releasing Dangerous Forces in an Industrialized World*, Arthur H. Westing, ed. London: Sage, 1990.

_____. Protection of the natural environment against the effects of military activities: legal implications. *Humanitäres Völkerrecht: Informationsschriften*, vol. 3, 1992, pp. 133-136.

Green, Leslie. The environment and the law of conventional warfare. In *Canadian Yearbook of International Law*, vol. 29, C. B. Bourne, ed. Vancouver: University of British Columbia Press, 1991, pp. 222-226.

Greenwood, Christopher. State responsibility and civil liability for environmental damages caused by military operations. In *International Law Studies*, vol. 69, *Protection of the Environment During Armed Conflict*, Richard J. Grunawalt, John E. King and Ronald S. McClain, eds. Newport: Naval War College, 1996.

_____. The twilight of the law of belligerent reprisals. *Netherlands Yearbook of International Law*, vol. 20, 1989, pp. 40-43.

Gillespie, Alexander. *Conservation, Biodiversity and International Law*. Cheltenham: Edward Elgar Publishing, 2011.

Guarnacci, Emilia Schiavo. Conflictos armados y medio ambiente. Buenos Aires, Universidad de Salvador, 2006.

Guillard, David. *Les armes de guerre et l'environnement naturel: essai d'étude juridique*. Paris: Harmattan, 2006.

Hagmann, Tobias. Confronting the concept of environmentally induced conflict. *Peace, Conflict and Development*, vol. 6, 2005, pp. 1-22.

Halle, Silja, ed. *From Conflict to Peacebuilding: The Role of Natural Resources and the Environment*. Nairobi: United Nations Environment Programme, February 2009.

_____. *Greening the Blue Helmets: Environment, Natural Resources and UN Peacekeeping Operations*. Nairobi: United Nations Environment Programme, May 2012.

Hampson, Françoise. Other areas of customary law in relation to the Study. In *Perspectives on the ICRC Study on Customary International Humanitarian Law*, Elizabeth Wilmshurst and Susan Breau, eds. Cambridge: Cambridge University Press, 2007, pp. 50-74.

Hannikainen, Lauri. The continued validity of the demilitarised and neutralized status of the Åland Islands. *Zeitschrift für ausländisches öffentliches Recht und Völkerrecht*, vol. 54, 1994, pp. 614-616.

Harwell, Emily E. Building momentum and constituencies for peace: the role of natural resources in transitional justice and peacebuilding. In *Governance, Natural Resources, and Post-conflict Peacebuilding*, Carl Bruch, Carroll Muffet and Sandra S. Nichols, eds. Routledge, 2013.

Harvard University, Program on Humanitarian Policy and Conflict Research. *HPCR Manual on International Law Applicable to Air and Missile Warfare*. Cambridge: Cambridge University Press, 2013.

Hawley, T. M. *Against the Fires of Hell: The Environmental Disaster of the Gulf War*. New York: Harcourt Brace Jovanovich, 1992.

Heintschel von Heinegg, Wolff, and Michael Donner. New developments in the protection of the natural environment in naval armed conflicts. In *German Yearbook of International Law*, vol. 37, Jost Delbrück, Rainer Hofmann and Andreas Zimmermann, eds. Berlin: Duncker and Humblot, 1994, pp. 281-302.

Henckaerts, Jean-Marie. International legal mechanisms for determining liability for environmental damage under international humanitarian law. In *The Environmental Consequences of War: Legal, Economic, and Scientific Perspectives*, Jay E. Austin and Carl E. Bruch, eds. Cambridge: Cambridge University Press, 2000.

_____. Study on customary international humanitarian law: a contribution to the understanding and respect for the rule of law in armed conflict. *International Review of the Red Cross*, vol. 87, No. 857 (2005), pp. 175-212.

Henckaerts, Jean-Marie, and Louise Doswald-Beck, eds. *Customary International Humanitarian Law*, vols. I and II. Cambridge: International Committee of the Red Cross and Cambridge University Press, 2005.

Herczegh, Géza. La protection de l'environnement naturel et le droit humanitaire. In *Etudes et essais sur le droit international humanitaire et sur les principes de la Croix-Rouge en l'honneur de Jean Pictet*. The Hague: Martinus Nijhoff Publishers, 1984.

Huang, Ling-Yee. The 2006 Israeli-Lebanese conflict: a case study for protection of the environment in times of armed conflict. *Florida Journal of International Law*, vol. 20, No. 1 (2008), pp. 103-113.

Hourcle, Laurent R. Environmental law of war. *Vermont Law Review*, vol. 25, No. 3 (2001), pp. 653-681.

Hulme, Karen. Taking care to protect the environment against damage: a meaningless obligation? *International Review of the Red Cross*, vol. 92, No. 879 (2010), pp. 675-691.

_____. Natural environment. In *Perspectives on the ICRC Study on Customary International Humanitarian Law*, Elizabeth Wilmshurst and Susan Breau, eds. Cambridge: Cambridge University Press, 2007, pp. 204-237.

_____. *War Torn Environment: Interpreting the Legal Threshold*. Leiden: Martinus Nijhoff Publishers, 2004.

Ichim, Octavian. *Just Satisfaction under the European Convention on Human Rights*. Cambridge: Cambridge University Press, 2014.

Jensen, David. Evaluating the impact of UNEP's post-conflict environmental assessments. In: *Assessing and Restoring Natural Resources in Post-Conflict Peacebuilding*, David Jensen and Steve Lonergan, eds. Abingdon, Oxon: Earthscan, 2013.

Jensen, David, and Silja Halle, eds. *Protecting the Environment During Armed Conflict: An Inventory and Analysis of International Law*. Nairobi: United Nations Environment Programme, November 2009.

Jensen, Eric Talbot. The international law of environmental warfare: active and passive damage during times of armed conflict. *Vanderbilt Journal of Transnational Law*, vol. 38, No. 1 (2005), pp. 145-186.

Jensen, Eric Talbot, and James J. Teixeira, Jr. Prosecuting members of the U.S. military for wartime environmental crimes. *Georgetown International Environmental Law Review*, vol. 17, No. 4 (2005), pp. 651-671.

Joyner, Christopher C., and James T. Kirkhope. The Persian Gulf war oil spill: reassessing the law of environmental protection and the law of armed conflict. *Case Western Reserve Journal of International Law*, vol. 24, No. 1 (1992), pp. 29-62.

Juste Ruiz, José. Derecho de los conflictos armados y protección del medio ambiente. In *Estudios de derecho internacional en homenaje al profesor Ernesto J. Rey Caro*, vol. 2, Zlata Drnas de Clément, ed. Córdoba: Marcos Lerner, 2002.

_____. Derecho de los conflictos armados y protección del medio ambiente. In *Cursos de derechos humanos de Donostia-San Sebastián*, vol. 3, Juan Soroeta Liceras, ed. San Sebastián: Universidad del País Vasco, 2002.

Kabai, Michael. An international call for moratorium on the use of depleted uranium in military weapons. *Journal of International Law of Peace and Armed Conflict*, vol. 26, No. 3 (2013), pp. 137-141.

Kalshoven, Frits. *Belligerent Reprisals*, 2nd ed. International Humanitarian Law Series. Leiden: Martinus Nijhoff, 2005.

_____. *Reflections on the Law of War: Collected Essays*. International Humanitarian Law Series. Leiden: Martinus Nijhoff, 2007.

Karuru, Njeri, and Louise H. Yeung. Integrating gender into post-conflict natural resource management. In *Governance, Natural Resources, and Post-conflict Peacebuilding*, Carl Bruch, Caroll Muffet and Sandra S. Nichols, eds. Routledge, 2013.

Kearns, Brendan. When bonobos meet guerillas: preserving biodiversity on the battlefield. *Georgetown International Environmental Law Review*, vol. 24, No. 2 (2012), pp. 123-168.

Kellman, Barry. The Chemical Weapons Convention: a verification and enforcement model for determining legal responsibilities for environmental harm caused by war. In *The Environmental Consequences of War: Legal, Economic, and Scientific Perspectives*, Jay E. Austin and Carl E. Bruch, eds. Cambridge: Cambridge University Press, 2000.

Kirchner, A. Environmental protection in time of armed conflict. *European Energy and Environmental Law Review*, vol. 9, No. 10 (2000), pp. 266-272.

Kiss, Alexandre. International humanitarian law and the environment. *Environmental Policy and Law*, vol. 31, Nos. 4-5 (2001), pp. 223-231.

Knox, John H. Assessing the candidates for a global treaty on environmental impact assessment. *New York University Environmental Law Journal*, vol. 12, No. 1 (2003), pp. 153-168.

Koppe, Erik V. The principle of ambituity and the prohibition against excessive collateral damage to the environment during armed conflict. *Nordic Journal of International Law*, vol. 82, No. 1 (2013), pp. 53-82.

_____. *The Use of Nuclear Weapons and the Protection of the Environment during International Armed Conflict*. Oxford: Hart Publishing, 2008.

Koroma, Abdul G. Law of sustainable development in the jurisprudence of the International Court of Justice. In *International Law and Changing Perceptions of Security* (forthcoming). The article is on file with the Special Rapporteur.

Kreß, Claus. The International Court of Justice and the law of armed conflicts. In *The Development of International Law by the International Court of Justice*, Christian J. Tams and James Sloan, eds. Oxford: Oxford University Press, 2013.

Landel, Morgane. Are aerial fumigations in the context of war in Colombia a violation of the rules of international humanitarian law? *Transnational Law and Contemporary Problems*, vol. 19, No. 2 (2010), pp. 419-513.

Lanier-Graham, Susan D. *The Ecology of War: Environmental Impacts of Weaponry and Warfare*. New York: Walker, 1993.

Lavaux, Stephanie. Degradación ambiental y conflictos armados: las conexiones. Documento de investigación, No. 7. Bogotá: Centro Editorial, Universidad del Rosario, 2004.

Lavieille, Jean-Marc. Les activités militaires, la protection de l'environnement et le droit international. *Revue juridique de l'environnement*, vol. 4, 1992, pp. 421-452.

Lijnzaad, Liesbeth, and Gerard J. Tanja. Protection of the environment in times of armed conflict: the Iraq-Kuwait War. *Netherlands International Law Review*, vol. 40, No. 2 (1993), pp. 169-199.

Lord, Janet E. Legal restraints in the use of landmines: humanitarian and environmental crisis. *California Western International Law Journal*, vol. 25, No. 2 (1995), pp. 311-355.

Low, Luan, and David Hodgkinson. Compensation for wartime environmental damage: challenges to international law after the Gulf War. *Virginia Journal of International Law*, vol. 35, No. 2 (1995), pp. 405-483.

Lubell, Noam. Challenges in applying human rights law to armed conflict. *International Review of the Red Cross*, vol. 87, No. 860 (2005), pp. 737-754.

Lujala, Päivi, and Siri Aas Rustad, ed. *High-value Natural Resources and Post-conflict Peacebuilding*. New York: Earthscan, 2012.

Lundberg, Michael A. The plunder of natural resources during war: a war crime (?) *Georgetown Journal of International Law*, vol. 39, No. 3 (2008), pp. 495-525.

Mahfoudh, Haykel Ben. *L'environnement, l'humanitaire et le droit international*. Manouba, Tunisia: Centre de publication universitaire, 2010.

Mahmoudi, Said. Foreign military activities in the Swedish economic zone. *International Journal of Marine and Coastal Law*, vol. 11, No. 3 (1996), pp. 365-386.

Mainetti, Vittorio. L'intérêt culturel internationalement protégé: contribution à l'étude du droit international de la culture. PhD thesis No. 881, Graduate Institute of International and Development Studies, 2011, pp. 71-136.

Makhijani, Arjun, Howard Hu, and Katherine Yih, eds. *Nuclear Wastelands: A Global Guide to Nuclear Weapons Production and its Health and Environmental Effects — By a Special Commission of International Physicians for the Prevention of Nuclear War and the Institute for Energy and Environmental Research*. Cambridge, Massachusetts: MIT Press, 1995.

Malviya, R. A. Laws of armed conflict and environmental protection: an analysis of their inter-relationship. In *ISIL Year Book of International Humanitarian and Refugee Law*, vol. I. New Delhi: Indian Society of International Law, 2001.

Marauhn, Thilo, Georg Nolte, and Andreas Paulus. Trends in international humanitarian law. *Human Rights Law Journal*, vol. 29, 2008, pp. 216-226.

Marauhn, Thilo, and Zacharie F. Ntoubandi. Armed conflict, non-international. In *Max Planck Encyclopaedia of Public International Law*, vol. I, Rüdiger Wolfrum, ed. Oxford: Oxford University Press, 2012.

Marsh, Jeremy. *Lex lata* or *lex ferenda*? Rule 45 of the ICRC study on customary international humanitarian law. *Military Law Review*, vol. 198, 2008, pp. 116-164.

McCarthy, Conor. *Reparations and Victim Support in the International Criminal Court*. Cambridge: Cambridge University Press, 2012.

McCormack, Timothy L. H. An Australian perspective on the ICRC customary international humanitarian law study. In *International Law Studies*, vol. 82, *The Law of War in the 21th Century: Weaponry and the Use of Force*, Anthony M. Helm, ed. Newport, Rhode Island: Naval War College, 2006, pp. 81-97.

McNeill, John H. Protection of the environment in times of armed conflict: environmental protection in military practice. In *Hague Yearbook of International Law*, vol. 6, 1993, A.-C. Kiss and Johan G. Lammers, eds. Dordrecht: Martinus Nijhoff, 1994.

Melvin, Neil, and Ruben De Koning. Resources and armed conflict. In *SIPRI Yearbook 2011: Armaments, Disarmament and International Security*. Oxford: Oxford University Press, 2011.

Mensah, Thomas A. United Nations Compensation Commission (UNCC). In *Max Planck Encyclopaedia of Public International Law*, vol. X, Rüdiger Wolfrum, ed. Oxford: Oxford University Press, 2012.

Mésa, R. Protection de l'environnement et armes de combat: étude de droit international penal. *Revue trimestrielle des droits de l'homme*, vol. 85, 2011, pp. 43-57.

Mollard-Bannelier, Karine. *La protection de l'environnement en temps de conflit armé*. Paris: Pedone, 2001.

Momtaz, Djamchid. Les règles relatives à la protection de l'environnement au cours des conflits armés à l'épreuve du conflit entre l'Irak et le Koweït. *Annuaire français de droit international*, vol. 37, 1991, pp. 203-219.

Moneta, Carlos J. *La Antartida en el sistema internacional del futuro*. Buenos Aires: Grupo Editor Latinoamericano, 1988.

Murphy, Sean D., Won Kidane, and Thomas R. Snider. *Litigating War: Arbitration of Civil Injury by the Eritrea-Ethiopia Claims Commission*. New York: Oxford University Press, 2013.

Nafziger, James A. R. UNESCO-centered management of international conflict over cultural property. *Hastings Law Journal*, vol. 27, No. 5 (1976), pp. 1051-1067.

Nystuen, Gro, Stuart Casey-Maslen, and Annie Golden Bersagel, eds. *Nuclear Weapons under International Law*. Cambridge: Cambridge University Press, 2014.

Okorodudu-Fubara, Margaret. Oil in the Persian Gulf War: legal appraisal of an environmental warfare. *St. Mary's Law Journal*, vol. 123, 1992, pp. 204-206.

Okowa, Phoebe. Environmental justice in situations of armed conflict. In *Environmental Law and Justice in Context*, Jonas Ebbesson and Phoebe Okowa, eds. Cambridge: Cambridge University Press, 2009.

_____. The legal framework for the protection of natural resources in situations of armed conflict. In *Criminal Jurisdiction 100 Years after the 1907 Hague Peace Conference: 2007 Hague Joint Conference on Contemporary Issues of International Law*, W.J.M. van Genugten, M. P. Scharf and S. E. Radin, eds. The Hague: T.M.C. Asser, 2007.

_____. Sovereignty contests and the protection of natural resources in conflict zones. *Current Legal Problems*, vol. 66, No. 1 (2013), pp. 33-73.

Oviedo, Gonzalo, Luisa Maffi, and Peter Bille Larsen. *Indigenous and Traditional Peoples of the World and Ecoregion Conservation: An Integrated Approach to Conserving the World's Biological and Cultural Diversity*. Gland: World Wide Fund for Nature, 2000.

Özerdem, Alpaslan and Rebecca Roberts. *Challenging post-conflict environments: sustainable agriculture*. Burlington: Ashgate, 2012.

Oxman, Bernard H. Comment: developing the environmental law of armed conflict. In *International Law Studies*, vol. 69, *Protection of the Environment During Armed Conflict*, Richard J. Grunawalt, John E. King and Ronald S. McClain, eds. Newport, Rhode Island: Naval War College, 1996.

Pantazopoulos, Stavros-Evdokimos. Towards a coherent framework of transnational corporations' responsibility in international environmental law. *Yearbook of International Environmental Law*, vol. 24, No. 1 (2013), pp. 131-165.

Parsons, Rymn James. The fight to save the planet: U.S. Armed Forces, "greenkeeping," and enforcement of the law pertaining to environmental protection during armed conflict. *Georgetown International Environmental Law Review*, vol. 10, No. 2 (1998), pp. 441-500.

Pavoni, Riccardo. Environmental rights, sustainable development, and investor-State case law: a critical appraisal. In *Human Rights in International Investment Law and Arbitration*, Pierre-Marie Dupuy, Ernst-Ulrich Petersmann and Francesco Francioni, eds. Oxford: Oxford University Press, 2009.

Payne, Cymie. Defining the environment. In *Environmental Protection and Transitions from Conflict to Peace: Clarifying Norms, Principles and Practices*, C. Stahn, J. Iverson and J. Easterday (forthcoming).

Payne, Cymie R., and Peter H. Sand, eds. *Gulf War Reparations and the UN Compensation Commission: Environmental Liability*. Oxford: Oxford University Press, 2011.

Pejic, Jelena. Status of armed conflicts. In *Perspectives on the ICRC Study on Customary International Humanitarian Law*, Elizabeth Wilmshurst and Susan Breau, eds. Cambridge: Cambridge University Press, 2007, pp. 77-100.

Perna, Laura. *The Formation of the Treaty Law of Non-International Armed Conflicts*. Leiden: Martinus Nijhoff, 2006.

Pertile, Marco. *La relazione tra risorse naturali e conflitti armati nel diritto internazionale*. Milan: CEDAM, 2012.

Peterson, Ines. The natural environment in times of armed conflict: a concern for international war crimes law? *Leiden Journal of International Law*, vol. 22, No. 2 (2009), pp. 325-343.

Pimiento Chamorro, Susana, and Edward Hammond. *Addressing Environmental Modification in Post-Cold War Conflict: The Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques (ENMOD) and Related Agreements*. Edmonds, Washington: Edmonds Institute, 2001.

Plant, Glen, ed. *Environmental Protection and the Law of War: A "Fifth Geneva" Convention on the Protection of the Environment in Time of Armed Conflict*. London: Belhaven Press, 1992.

Plant, Roger. *Land Rights and Minorities*. Minority Rights Group International Report 94/2. London: Minority Rights Group, 1994.

Popović, Neil A. F. Humanitarian law, protection of the environment, and human rights. *Georgetown International Environmental Law Review*, vol. 8, No. 1 (1995), pp. 67-89.

Prawitz, Jan. The concept of NWFZ with a comment on East Asia. In *Proceedings of the Forty-fifth Pugwash Conference on Science and World Affairs, Hiroshima, Japan, 23-29 July 1995: Towards a Nuclear-Weapon Free World*, Joseph Rotblat and Michiji Konuma, eds. Singapore: World Scientific, 1997, p. 24.

Prescott, Michael. How war affects treaties between belligerents: a case study of the Gulf War. *Emory International Law Review*, vol. 7, No. 1 (1993), pp. 197-201.

Quénivet, Noëlle and Shilan Shah-Davis, eds. *International Law and Armed Conflict: Challenges in the 21st Century*. The Hague: T.M.C. Asser, 2010.

Quinn, John P., Richard T. Evans, and Michael J. Boock, United States Navy development of operational-environmental doctrine. In *The Environmental Consequences of War: Legal, Economic, and Scientific Perspectives*, Jay E. Austin and Carl E. Bruch, eds. Cambridge: Cambridge University Press, 2000.

Reuveny, Rafael, Andreea S. Mihalache-O'Keef, and Quan Li. The effect of warfare on the environment. *Journal of Peace Research*, vol. 47, No. 6 (2010), pp. 749-761.

Rich, Andy. The environment: adequacy of protection in times of war. *Penn State Environmental Law Review*, vol. 12, No. 3 (2004), pp. 445-558.

Robb, Cairo A. R., ed. *International Environmental Law Reports*, vol. 3, *Human Rights and Environment*. Cambridge: Cambridge University Press, 2001.

Roberts, Adam. The law of war and environmental damage. In *The Environmental Consequences of War: Legal, Economic, and Scientific Perspectives*, Jay E. Austin and Carl E. Bruch, eds. Cambridge: Cambridge University Press, 2000.

Robinson, Nicholas. International law and the destruction of nature in the Gulf War. *Environmental Policy and Law*, vol. 21, 1991, pp. 216-220.

Rogers, A.P.V. *Law on the Battlefield*. Manchester: Manchester University Press, 2004.

Roscini, Marco. Protection of the natural environment in time of armed conflict. In *International Humanitarian Law: An Anthology*, Jahid Hossain Bhuiyan, Louise Doswald-Beck and Azizur Rahman Chowdhury, eds. Nagpur: LexisNexis Butterworths, 2009.

Roselli, Carina. At the intersection of human rights and the environment in Iraq's southern marshes. Doctor juris thesis, Vermont Law School, 2014. The thesis is on file with the Special Rapporteur.

_____. Bordering on desuetude: are Additional Protocol I's environmental provisions no longer serviceable? 17 January 2013. The article is on file with the Special Rapporteur.

_____. Restoring Iraq's southern marshes: uncertainty in post-conflict Mesopotamia. Dissertation, Vermont Law School, 20 December 2012.

Ross, Marc A. Environmental warfare and the Persian Gulf War: possible remedies to combat intentional destruction of the environment. *Dickinson Journal of International Law*, vol. 10, No. 3 (1992), pp. 515-534.

Saalfeld, Michael. Umweltschutz in bewaffneten Konflikten aus völkerrechtsgeschichtlicher Sicht. *Humanitäres Völkerrecht: Informationsschriften*, vol. 5, No. 1 (1992), pp. 23-32.

Sadeleer, Nicolas de. *EU Environmental Law and the Internal Market*. Oxford: Oxford University Press, 2014.

Sancin, Vasilka. Peace operations and the protection of the environment. In *International Environmental Law: Contemporary Concerns and Challenges*, Vasilka Sancin, ed. Ljubljana: GV Založba, 2012.

Sand, Peter H. Compensation for environmental damage from the 1991 Gulf War. *Environmental Policy and Law*, vol. 35, No. 6 (2005), pp. 244-249.

_____. Environmental dispute settlement and the experience of the UN Compensation Commission. *Japanese Yearbook of International Law*, vol. 54, 2011, pp. 151-189.

Sandoz, Yvez, Christophe Swinarski, and Bruno Zimmermann. *Commentary on the Additional Protocols of 8 June 1977 to the Geneva Conventions of 12 August of 1949*. Geneva: International Committee of the Red Cross and Martinus Nijhoff, 1987.

Sands, Philippe. The Gulf war: environment as a weapon. In *Proceedings of the 85th Annual Meeting of the American Society of International Law*, vol. 85, G. C. Denny and S. F. Bassuener, eds. Washington, D.C.: American Society of International Law, 1991.

_____. Liability for environmental damage and the report of the UNEP Working Group of Experts: an introductory note. In *Liability and Compensation for Environmental Damage: Compilation of Documents*, Alexandre Timoshenko, ed. Nairobi: United Nations Environment Programme, 1998.

Sands, Philippe, and Jacqueline Peel. *Principles of International Environmental Law*, 3rd ed. Cambridge: Cambridge University Press, 2012.

Schafer, Bernard K. The relationship between the international laws of armed conflict and environmental protection: the need to re-evaluate what types of conduct are permissible during hostilities. *California Western International Law Journal*, vol. 19, No. 2 (1988-1989), pp. 287-325.

Schiefer, H. Bruno, ed. *Verifying Obligations Respecting Arms Control and the Environment: A Post-Gulf War Assessment — Final Report, Workshop on Verifying Obligations Respecting Arms Control and the Environment: Post-Gulf War Assessment*. Saskatoon: University of Saskatchewan, 1992.

Schmitt, Michael N. Green war: an assessment of the environmental law of international armed conflict. *Yale Journal of International Law*, vol. 22, No. 1 (1997), pp. 1-109.

_____. Humanitarian law and the environment. *Denver Journal of International Law and Policy*, vol. 28, No. 3 (2000), pp. 265-323.

_____. War and the environment: fault lines in the prescriptive landscape. In *The Environmental Consequences of War: Legal, Economic, and Scientific Perspectives*, Jay E. Austin and Carl E. Bruch, eds. Cambridge: Cambridge University Press, 2000.

_____, ed. *Tallinn Manual on the International Law Applicable to Cyber Warfare*. Cambridge: Cambridge University Press, 2013.

Schmitt, Michael N., Charles H. B. Garraway, and Yoram Dinstein. *The Manual on the Law of Non-International Armed Conflict: With Commentary*. San Remo: International Institute of Humanitarian Law, 2006.

Schwartz, Priscilla. The polluter-pays principle. In *Research Handbook on International Environmental Law*, Malgosia Fitzmaurice, David M. Ong and Panos Merkouris, eds. Cheltenham: Edward Elgar Publishing, 2010.

Scobbie, Iain. The approach to customary law in the Study. In *Perspectives on the ICRC Study on Customary International Humanitarian Law*, Elizabeth Wilmshurst and Susan Breau, eds. Cambridge: Cambridge University Press, 2007, pp. 15-29.

Shambaugh, James, Judy Oglethorpe, and Rebecca Ham. *The Trampled Grass: Mitigating the Impacts of Armed Conflict on the Environment*. Washington, D.C.: Biodiversity Support Program, 2001.

Sharp, Walter. The effective deterrence of environmental damage during armed conflict: a case analysis of the Persian Gulf War. *Military Law Review*, vol. 137, 1992, pp. 1-67.

Shelton, Dinah L., and Alexandre Charles Kiss. *International Environmental Law*. 3rd ed. New York: Transnational Publishers, 2004.

Shraga, Daphna. The Secretary-General's bulletin on the observance by United Nations forces of international humanitarian law: a decade later. *Israel Yearbook on Human Rights*, vol. 39 (2009), pp. 357-368.

Singh, A. P. Protection of environment during armed conflict: is a new frame of laws necessary? *Journal of the Indian Law Institute*, vol. 52, Nos. 3-4 (2010), pp. 453-466.

Sjöstedt, Britta. The role of multilateral environmental agreements in armed conflict: "green-keeping" in Virunga Park — applying the UNESCO World Heritage Convention in the armed conflict of the Democratic Republic of the Congo. *Nordic Journal of International Law*, vol. 82, No. 1 (2013), pp. 129-153.

Smith, Tara. Creating a framework for the prosecution of environmental crimes in international criminal law. In *The Ashgate Research Companion to International Criminal Law: Critical Perspectives*, William A. Schabas, Yvonne McDermott and Niamh Hayes, eds. Farnham, Surrey: Ashgate, 2013.

Soons, Alfred H. A. *Marine Scientific Research and the Law of the Sea*. Utrecht: Kluwer Law and Taxation Publishers, 1982.

Spieker, Heike. The conduct of hostilities and the protection of the environment. In *Frieden in Freiheit — Peace in Liberty — Paix en liberté: Festschrift für Michael Bothe zum 70. Geburtstag*, Andreas Fischer-Lescano and others, eds. Zürich: Dike Verlag, 2008.

_____. *Völkergewohnheitsrechtlicher Schutz der natürlichen Umwelt im internationalen bewaffneten Konflikt*. Bochum: UVB-Universitätsverlag Dr. N. Brockmeyer, 1992.

Subedi, Surya P. *Land and Maritime Zones of Peace in International Law*. Oxford: Clarendon Press, 1996.

Tams, Christian J. The contentious jurisdiction of the Permanent Court. In *Legacies of the Permanent Court of International Justice*, Christian J. Tams and Malgosia Fitzmaurice, eds. Leiden: Martinus Nijhoff Publishers, 2013.

Tarasofsky, Richard G. Legal protection of the environment during international armed conflict. *Netherlands Yearbook of International Law*, vol. 24, 1993, pp. 17-79.

_____. Protecting especially important areas during international armed conflict: a critique of the IUCN draft convention on the prohibition of hostile military activities in internationally protected areas. In *The Environmental Consequences of War: Legal, Economic, and Scientific Perspectives*, Jay E. Austin and Carl E. Bruch, eds. Cambridge: Cambridge University Press, 2000.

Thieffry, Patrick. *Droit de l'environnement de l'Union europeenne*. 2nd. ed. Brussels: Bruylant, 2011.

Thomas, Carson. Advancing the legal protection of the environment in relation to armed conflict: Protocol I's threshold of impermissible environmental damage and alternatives. *Nordic Journal of International Law*, vol. 82, No. 1 (2013), pp. 83-103.

Ticehurst, Rupert. The Martens Clause and the laws of armed conflict. *International Review of the Red Cross*, vol. 37, No. 317 (1997), pp. 125-134.

Tignino, Mara. Water, international peace and security. *International Review of the Red Cross*, vol. 92, No. 879 (2010), pp. 647-674.

_____. *L'eau et la guerre: éléments pour un régime juridique*. Brussels: Bruylant, 2011.

Tir, Jaroslav, and Douglas M. Stinnett. Weathering climate change: can institutions mitigate international water conflict? *Journal of Peace Research*, vol. 49, No. 1 (2012), pp. 211-225.

Tolentino, Amado S., Jr. Armed conflict and the environment: legal perspectives. *Philippine Law Journal*, vol. 81, No. 3 (2007), pp. 377-389.

_____. The law of armed conflict vis-à-vis the environment. In *International Law: New Actors, New Concepts — Continuing Dilemmas: Liber Amicorum Boidar Bakoti?*, Budislav Vukas and Trpimir M. Šošić, eds. Leiden: Martinus Nijhoff, 2010.

Toman, Jiří. *Cultural Property in War: Improvement in Protection — Commentary on the 1999 Second Protocol to the Hague Convention of 1954 for the Protection of Cultural Property in the Event of Armed Conflict*. Paris: United Nations Educational, Scientific and Cultural Organization Publishing, 2009.

_____. *The Protection of Cultural Property in the Event of Armed Conflict: Commentary on the Convention for the Protection of Cultural Property in the Event of Armed Conflict and its Protocol, Signed on 14th May 1954 in The Hague, and on Other Instruments of International Law concerning such Protection*. Brookfield: Dartmouth Publishing, 1996.

Trouwborst, Arie. *Evolution and Status of the Precautionary Principle in International Law*. International Environmental Law and Policy Series, vol. 62. The Hague: Kluwer Law International, 2002.

Tucker, Matthew L. Mitigating collateral damage to the natural environment in naval warfare: an examination of the Israeli naval blockade of 2006. *Naval Law Review*, vol. 57, 2009, pp. 161-201.

Türk, Helmut. The negotiation of a new Geneva-style convention: a government lawyer's perspective. In *Environmental Protection and the Law of War: A "Fifth Geneva" Convention on the Protection of the Environment in Time of Armed Conflict*, Glen Plant, ed. London: Belhaven Press, 1992.

Van der Vyver, Johan D. The environment: State sovereignty, human rights, and armed conflict. *Emory International Law Review*, vol. 23, No. 1 (2009), pp. 85-112.

Venturini, Gabriella. Disasters and armed conflict. In *International Disaster Response Law*, Andrea de Guttry, Marco Gestri and Gabriella Venturini, eds. The Hague: T.M.C. Asser, 2012.

_____. International disaster response law in relation to other branches of international law. In *International Disaster Response Law*, Andrea de Guttry, Marco Gestri and Gabriella Venturini, eds. The Hague: T.M.C. Asser, 2012.

Verwey, Wil. Observation on the legal protection of the environment in times of international armed conflict. In *Hague Yearbook of International Law*, vol. 7, 1994, A.-C. Kiss and J. G. Lammers, eds. Dordrecht: Martinus Nijhoff, 1995, pp. 35-52.

_____. Protection of the environment in times of armed conflict: in search of a new legal perspective. *Leiden Journal of International Law*, vol. 8, No. 1 (1995), pp. 7-40.

Vialle, Anne-Cécile, and others. Peace through justice? International tribunals and accountability for wartime environmental wrongs. In *Governance, Natural*

Resources, and Post-conflict Peacebuilding, Carl Bruch, Carroll Muffet and Sandra S. Nichols, eds. Routledge, 2013.

Viikari, L. V. *Studies in Space Law*, vol. 3, *The Environmental Element in Space Law: Assessing the Present and Charting the Future*. Leiden: Martinus Nijhoff, 2008.

Vinuales, Jorge E. Cartographies imaginaires: observations sur la portée juridique du concept de "regime special" en droit international. *Journal du droit international*, vol. 140, No. 2 (2013), pp. 405-425.

Voigt, Christina. *Sustainable Development as a Principle of International Law: Resolving Conflicts between Climate Measures and WTO Law*. Leiden: Martinus Nijhoff, 2009.

Vöneky, Silija. *Die Fortgeltung des Umweltvölkerrechts in internationalen bewaffneten Konflikten*. Beiträge zum ausländischen öffentlichen Recht und Völkerrecht, vol. 145, Max-Planck-Institut für ausländisches öffentliches Recht und Völkerrecht. Berlin: Springer, 2001.

_____. A new shield for the environment: peacetime treaties as legal restraints of wartime damage. *Review of European Community and International Environmental Law*, vol. 9, No. 1 (2000), pp. 20-32.

_____. Peacetime environmental law as a basis of state responsibility for environmental damage caused by war. In *The Environmental Consequences of War: Legal, Economic, and Scientific Perspectives*, Jay E. Austin and Carl E. Bruch, eds. Cambridge: Cambridge University Press, 2000.

Walker, George K.., ed. *Definitions for the Law of the Sea: Terms not Defined by the 1982 Convention*. Leiden: Martinus Nijhoff Publishers, 2011.

Warner, Frederick. The environmental consequences of the Gulf War. *Environment*, vol. 33, No. 5 (1991), pp. 6-26.

Weiss, Edith Brown. *International Law for a Water-Scarce World*. Leiden: Martinus Nijhoff Publishers, 2013.

Westing, Arthur. *Ecological Consequences of the Second Indochina War*. Stockholm: Almqvist & Wiksell International, 1976.

_____. *Global Resources and International Conflict: Environmental Factors in Strategic Policy and Action*. Oxford: Oxford University Press, 1986.

_____. In furtherance of environmental guidelines for armed forces during peace and war. In *The Environmental Consequences of War: Legal, Economic, and Scientific Perspectives*, Jay E. Austin and Carl E. Bruch, eds. Cambridge: Cambridge University Press, 2000.

_____. *Warfare in a Fragile World: Military Impact on the Human Environment*. London: Taylor and Francis, 1980.

Westing, Arthur, ed. *Explosive Remnants of War: Mitigating the Environmental Effects*. London: Taylor and Francis, 1985.

Wilmshurst, Elizabeth, ed. *International Law and the Classification of Conflicts*. Oxford: Oxford University Press, 2012.

Wilmshurst, Elizabeth, and Susan Breau, eds. *Perspectives on the ICRC Study on Customary International Humanitarian Law*. Cambridge: Cambridge University Press, 2007.

Whittemore, Luke. Intervention and post-conflict natural resource governance: lessons from Liberia. *Minnesota Journal of International Law*, vol. 17, No. 2 (2008), pp. 387-433.

Wyatt, Julian. Law-making at the intersection of international environmental, humanitarian and criminal law: the issue of damage to the environment in international armed conflict. *International Review of the Red Cross*, vol. 92, No. 879 (2010), pp. 593-646.

Zemmali, Ameur. La protection de l'environnement en période de conflit armé dans les normes humanitaires et l'action du Comité international de la Croix Rouge. In *International Legal Issues Arising under the United Nations Decade of International Law*, Najeeb Al-Nauimi and Richard Meese, eds. The Hague: Martinus Nijhoff, 1995.